

Figure 1A

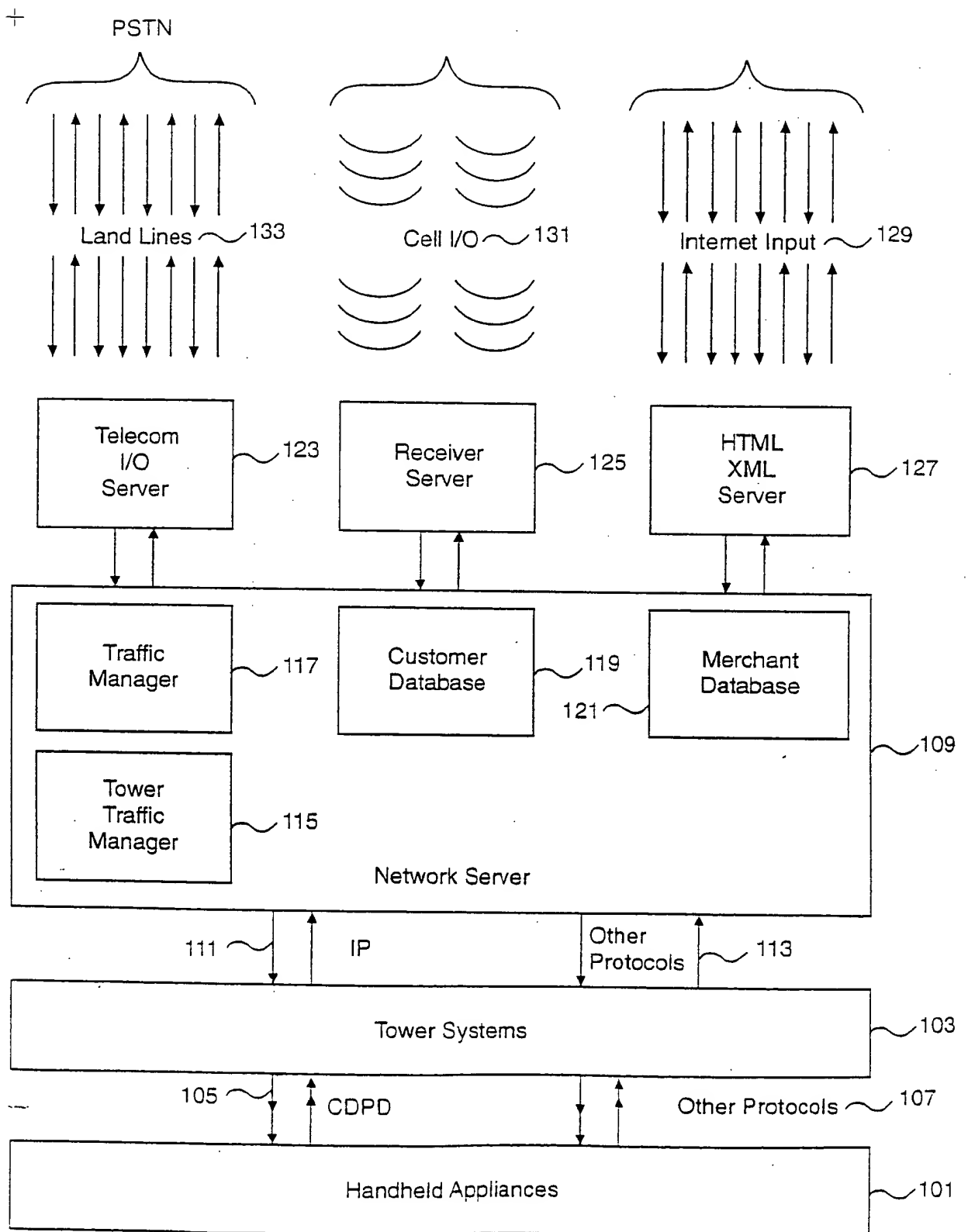


Figure 1B

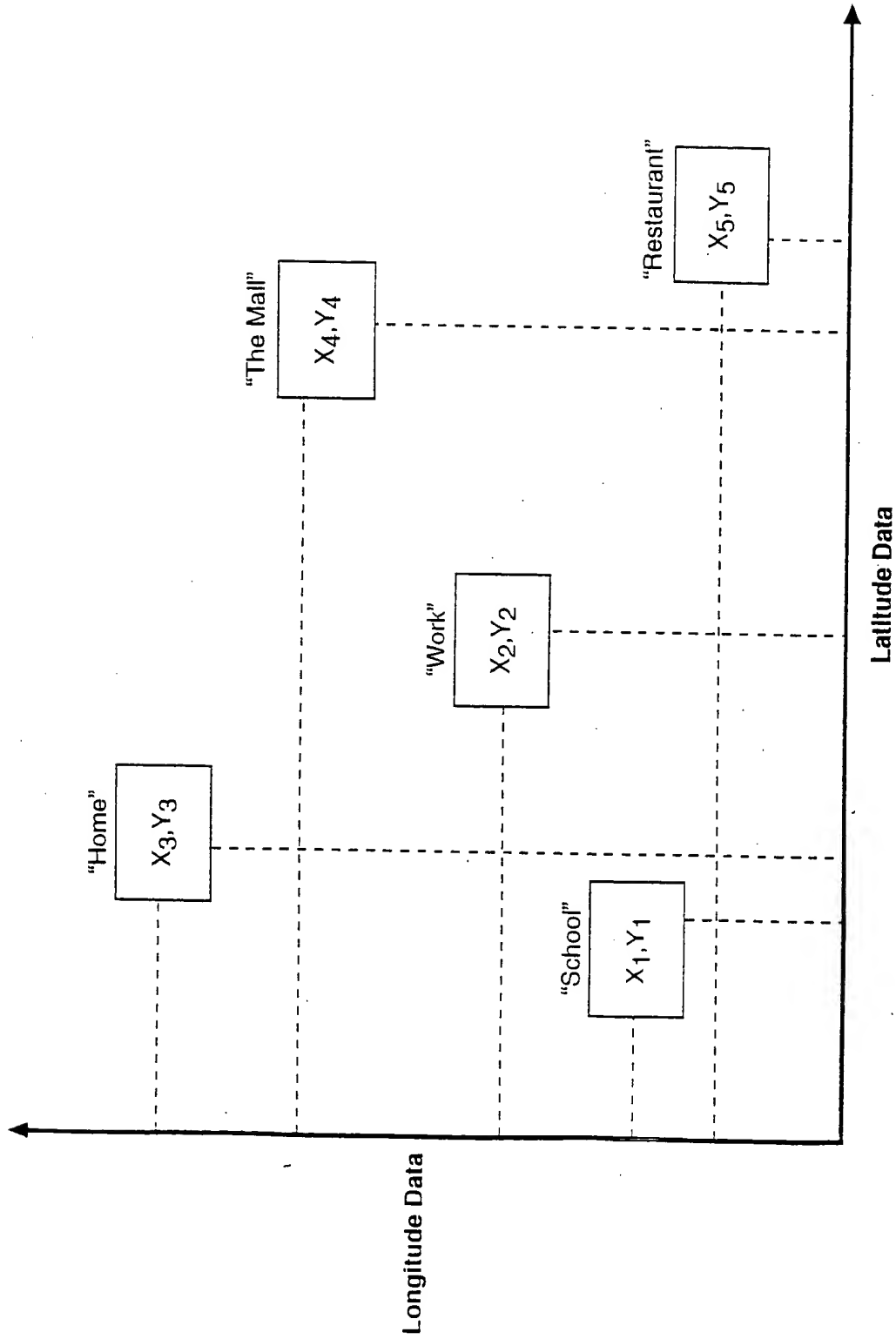


Figure 1C

2025-10-23 11:00:00

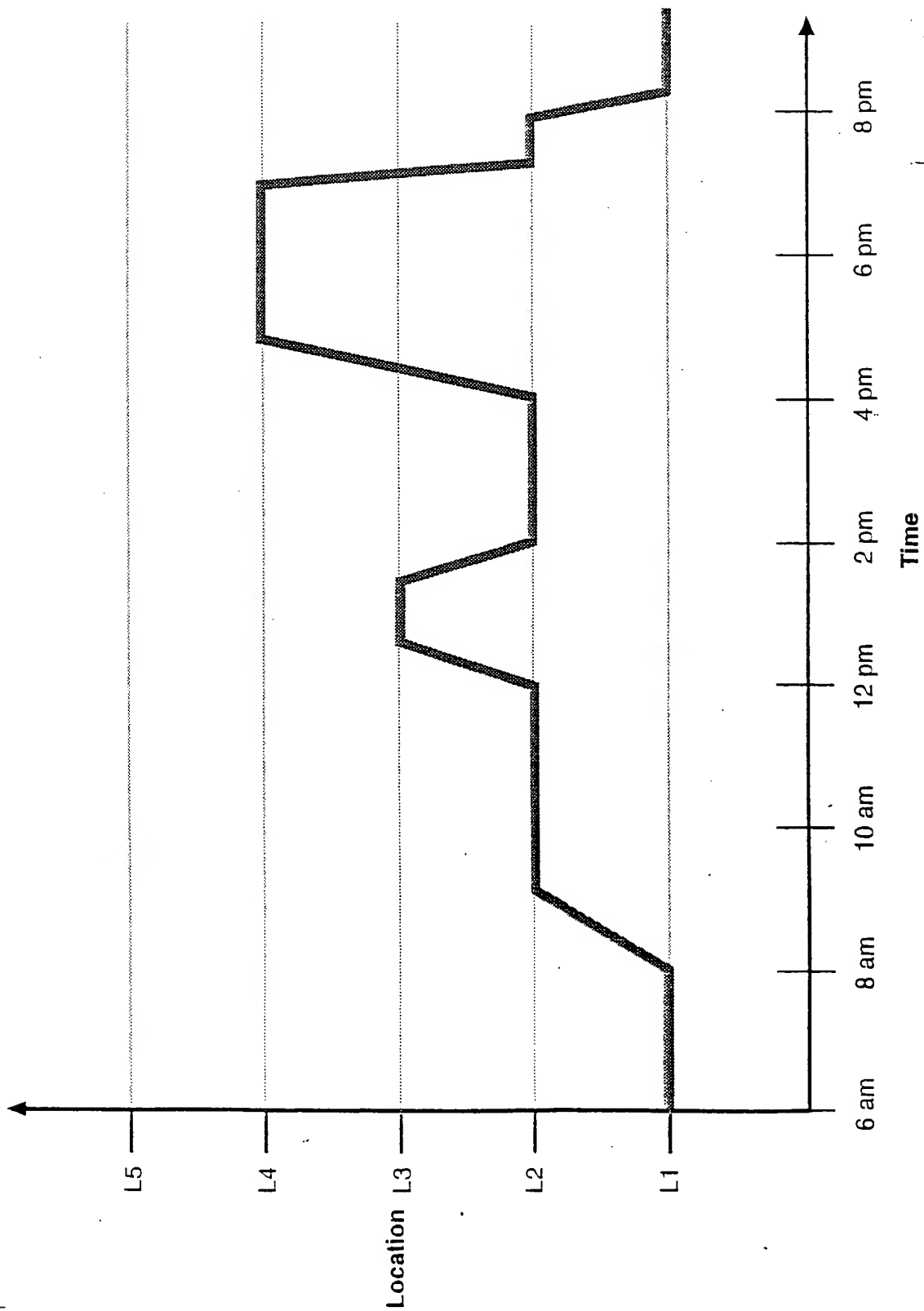


Figure 1D

151	Biographic Data	157	159	161
163	Name	Sue	High	Yes
165	Gender	Female	High	Yes
167	Age	13	Medium	Yes
169	Ethnic Background	Chinese-American	Medium	No
171	Demographic Data			
173	Culture	American	Low	No
175	Region	East Coast	High	Yes
177	Likely Family Income	High	Low	No
179	Preferences Data			
181	Action Movies	High Interest	High	No
	Hip-Hop Music	Low Interest	Low	No
	Clothing from The GAP	High Interest	High	Yes

Figure 1E

203 213 221 225 253

Tower No.	Region	Adjoining Regions	Favorite Places	Network Affiliates
203	213	221	225 Riding Stables	253 Game Arcade
		215	227 Water Park	255 Video Store
				257 Taco Stand
				259 Book Store
				261 Riding Supply Store

Figure 1G (1 of 5)

205 215 213 229 263 265 267 269 271 273 278

Tower No.	Region	Adjoining Regions	Favorite Places	Network Affiliates
205	215	213	229 Aunt Jane's House	263 24-Hour Gym
		217	231 Linear Park	265 Ice Skating Rink
		221	233 Pottery Supply Store	267 Sporting Goods Superstore
				269 Promdress Shop
				271 Belgian Chocolate Store
				273 Pet Store
				278 Model Train Store

Figure 1G (2 of 5)

2025-03-03 23:44:56

Tower No.	Region	Adjoining Regions	Favorite Places	Network Affiliates
207	217	219	235 Candy's House	275 Corn Maze
		221	237 Resale Boutique	277 Aquarium
		215		279 Museum
				281 I-MAX Theatre
				283 Movie Theatre
				285 Laser Tag Facility
				287 Pizza Place
				289 Zoo
				291 Public Library

Figure 1G (3 of 5)

205710"234450

Tower No.	Region	Adjoining Regions	Favorite Places	Network Affiliates
209	219	217	239 Home	293 Mall #1
		221	241 School	295 Mall #2
			243 Work	297 Chinese Food
			245 Suzy's House	299 K-Mart
				301 Target
				303 Record Store
				305 Batting Cages
				307 Golf Driving Range
				309 Computer Superstore
				311 Boy's Club
				313 Church #1
				315 Restaurant #14
				317 Bicycle Shop

Figure 1G (4 of 5)

2025-10-29 09:00

Tower No.	Region	Adjoining Regions	Favorite Places	Network Affiliates
211	221	219	247 Uncle Clay's House	319 Metro Stop
		217	249 The Gap	321 Starbucks
		215	251 Grand Mother's House	323 Bowling Alley
		213		325 Antique Mall
				327 Tennis Facility
				329 Car Stereo Superstore

Figure 1G (5 of 5)

2025-10-29 14:56

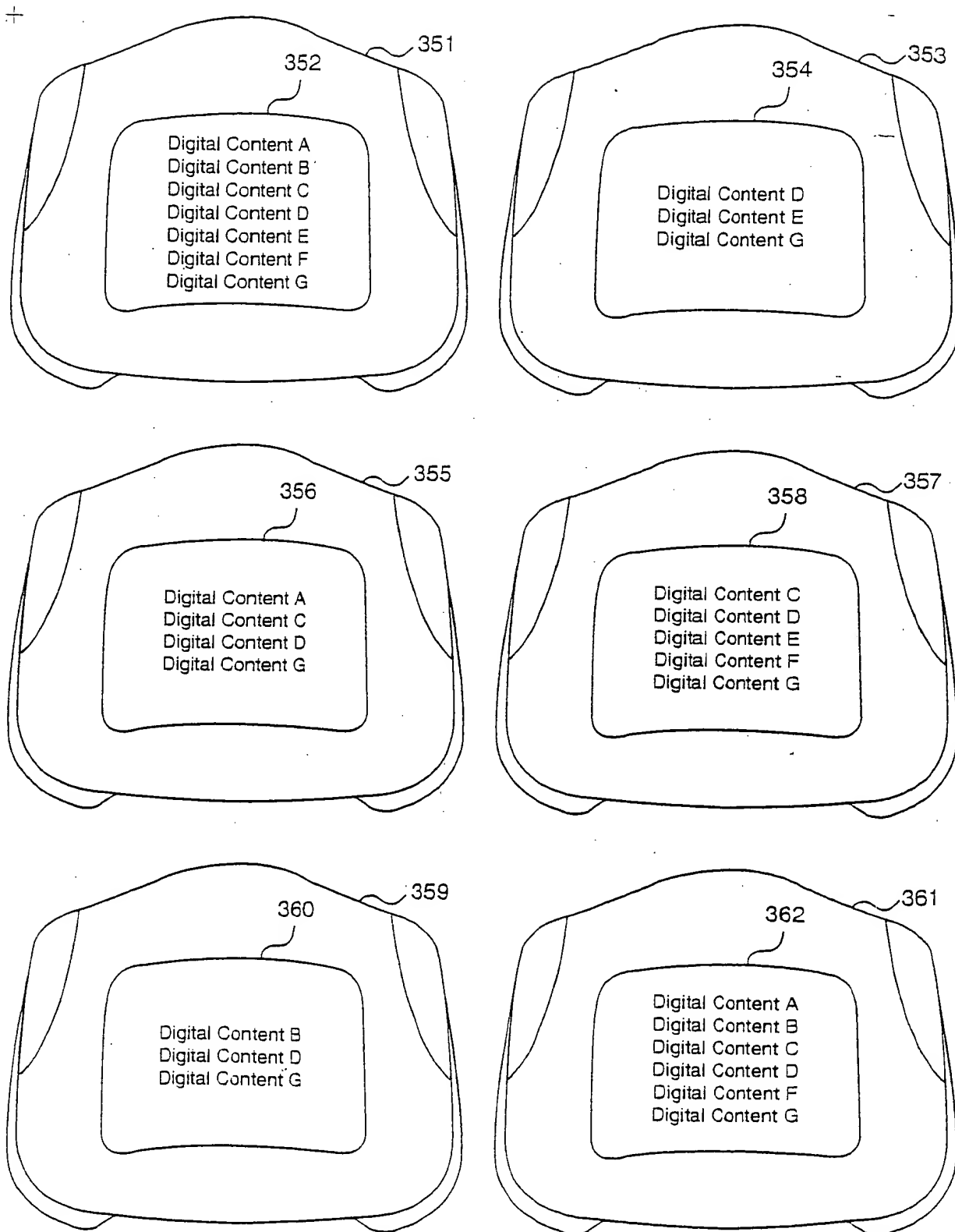


Figure 1H

365	367	369	371	373	375	377	379	381	383
Digital Content ID	Playable Digital Content	Source	Type	Subject	Energy Required to Play (Units)	Energy Earned for Playing (Units)	Preferred Location	Preferred Time	Period
Digital Content A	Movie	Merchant #12	Advertisement	X, Y	0	5	LATLONG1	After School	Incrementally Larger with Location
Digital Content B	Text and Alarm	Government Entity	Warning	Weather	0	0	Various Changing	Immediate	One Time Only
Digital Content C	Graphical Icon	Friend #1	Email Message		2	0	N/A	ASAP	7 Days
Digital Content D	Text Message	Acquaintance #3	Request for Chat		5	0	N/A	ASAP	3 Hours
Digital Content E	Executable Spreadsheet	Merchant #2	Survey	L, M	0	20	LATLONG2	Between 12/1 and 12/25	25 Days
Digital Content F	Text Message	School	Announcement	Sporting Event	1	0	N/A	Between 3:00 pm and 10:00 pm	Incrementally Larger for 7 Days
Digital Content G	Calendar File	Soccer Team	Schedule		3	0	N/A		User Initiated for 2 Days

Figure 11

20060303

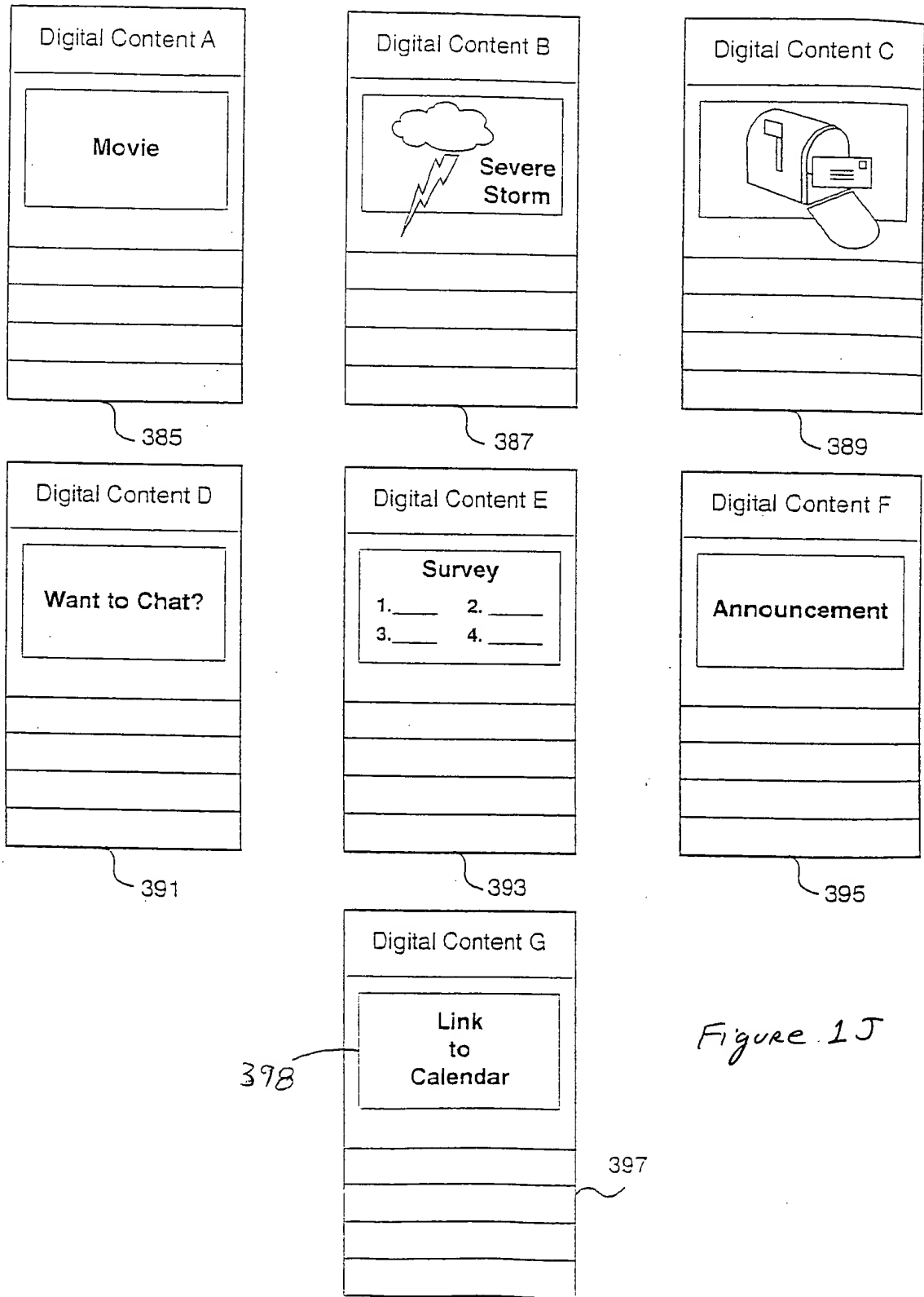


Figure 1J

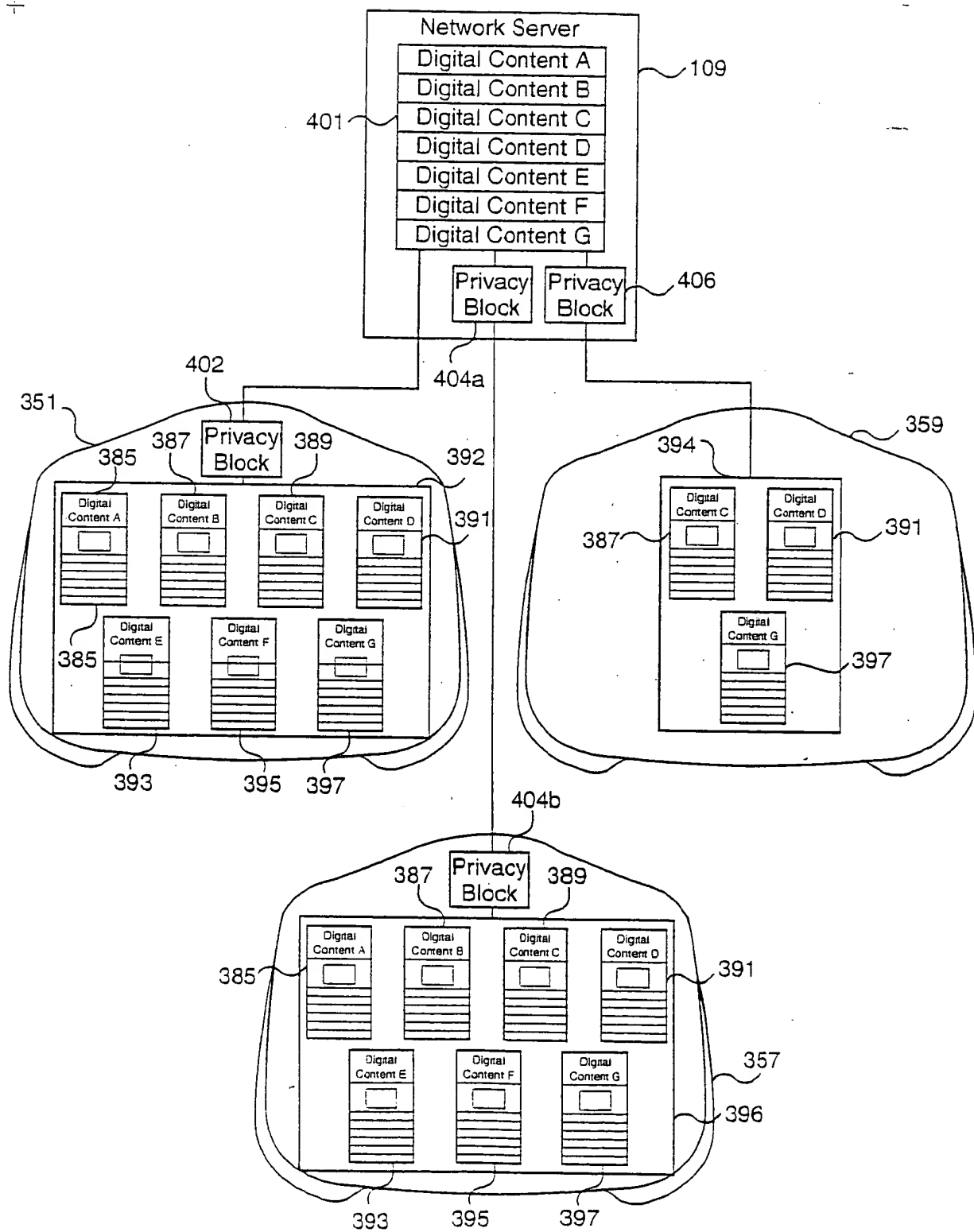


Figure 1K

407

Contextual User Profile												
User/ Appliance	Static Components			Dynamic Data Components								
	423	423b	423c	425a	425b	425c	425d	425e	425f	425g	425h	
	Biographic	Demographic	Cultural	Latitude Longitude	Time	Date	Available Energy	Food Pref.	Entertainment Preferences	Relationship Preferences	Privacy Block	
351	B1	DM3	C1	LATLONG1	4:00 pm	12/5	130	F1	E1	R3	P1	
353	B3	DM2	C2	LATLONG2	4:30 pm	12/5	43	F2	E3	R2	P2	
355	B2	DM1	C3	LATLONG3	5:00 pm	12/5	62	F3	E2	R1	P3	
357	B1	DM2	C1	LATLONG4	4:00 pm	12/5	227	F3	E1	R1	P4	
359	B3	DM3	C2	LATLONG5	4:30 pm	12/5	39	F2	E3	R2	P5	
361	B1	DM3	C3	LATLONG6	5:00 pm	12/5	200	F1	E2	R3	P6	

Figure 1L

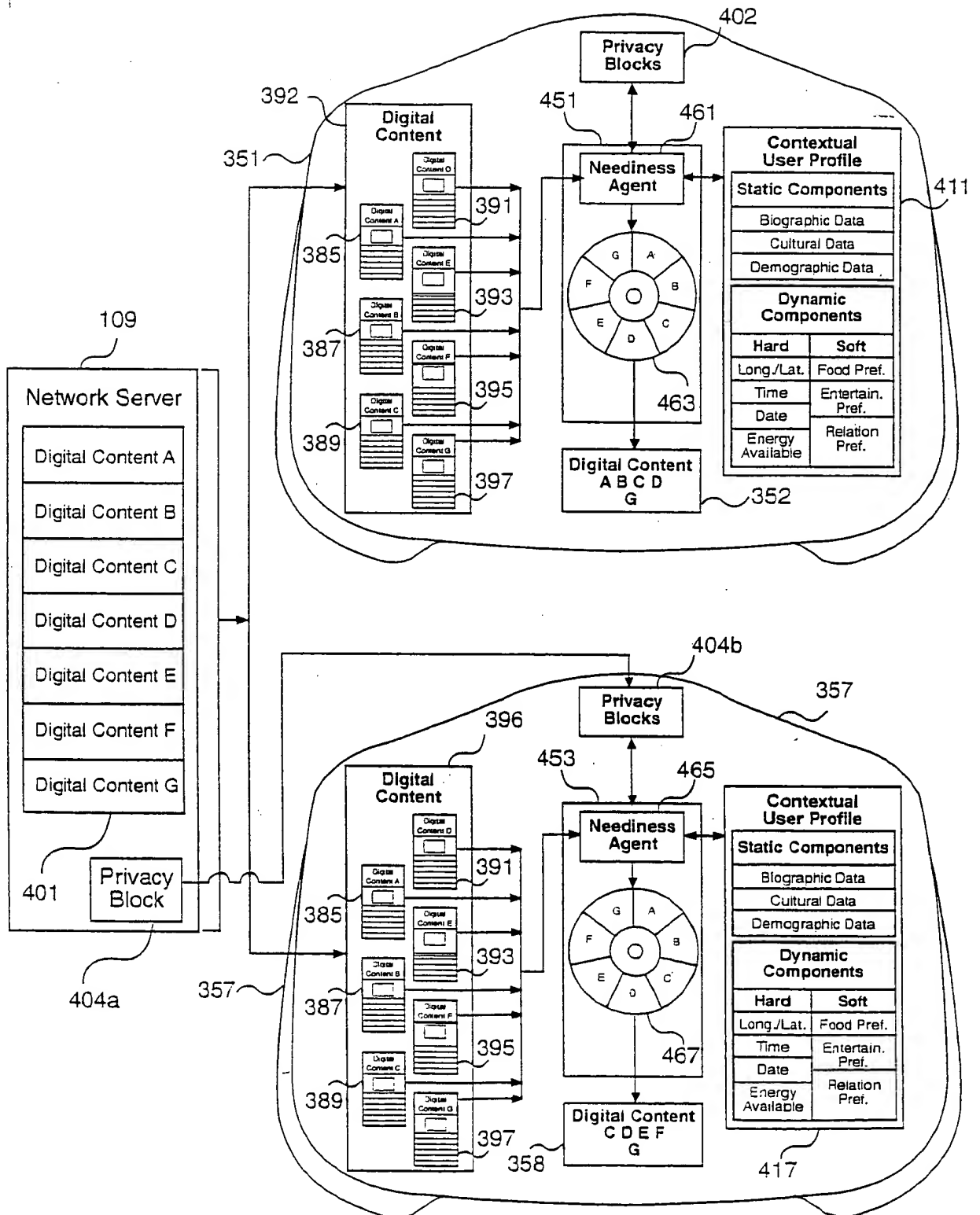


Figure 1M

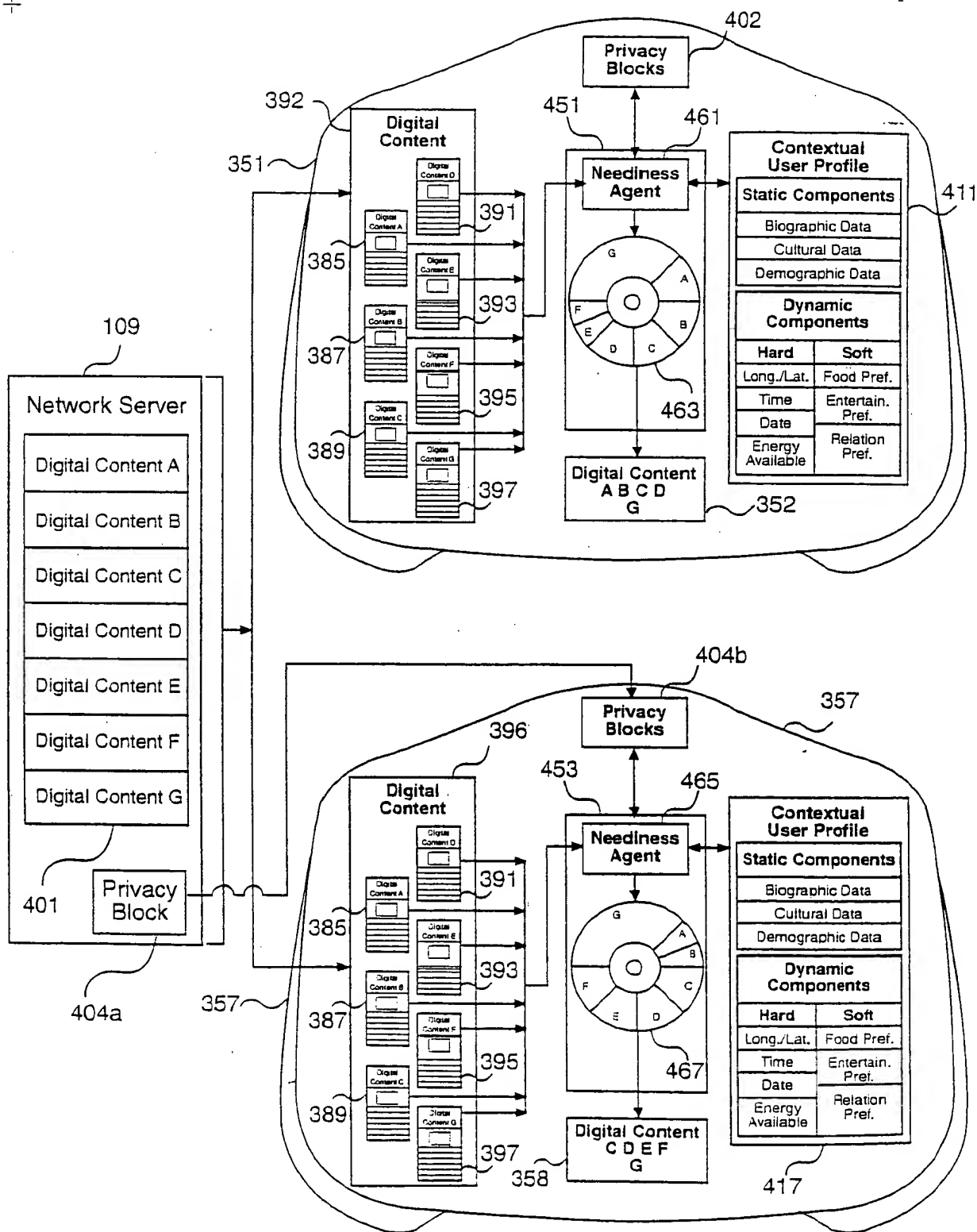


Figure 1N

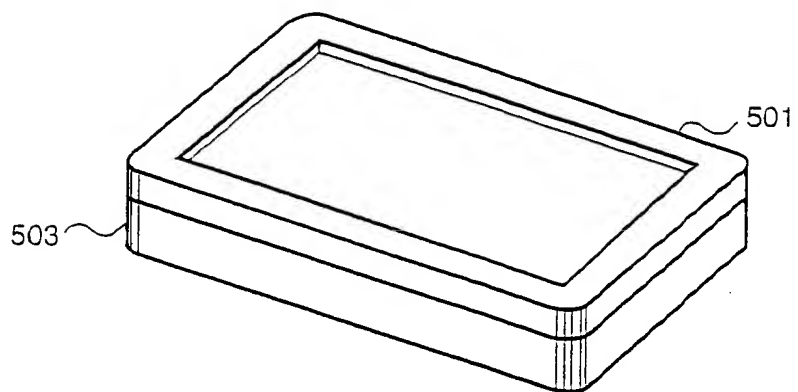


Figure 2A

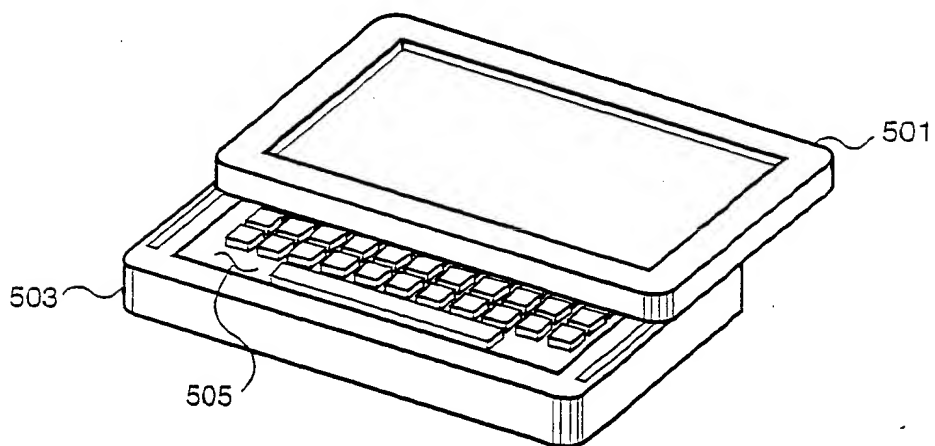


Figure 2B

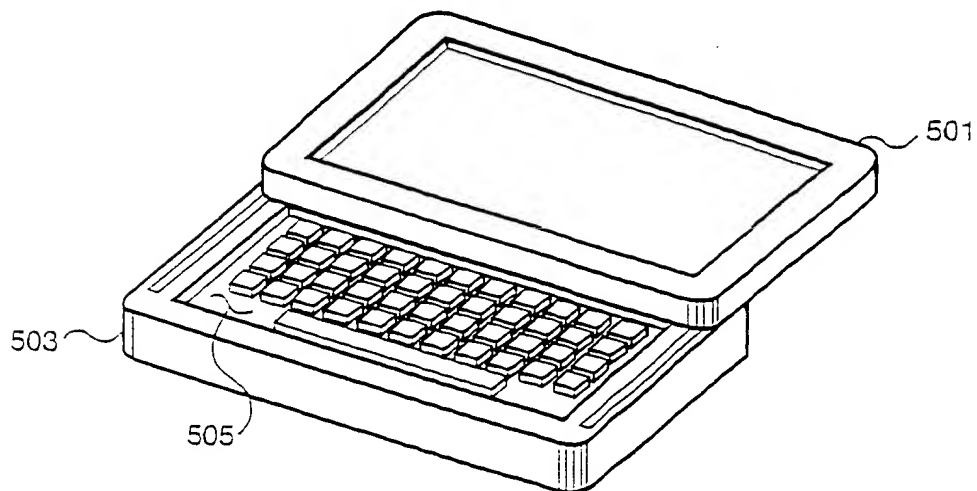


Figure 2C

2025-01-20 10:00:00

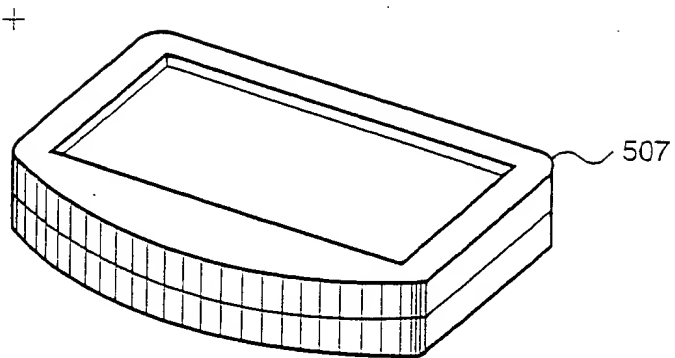


Figure 2D

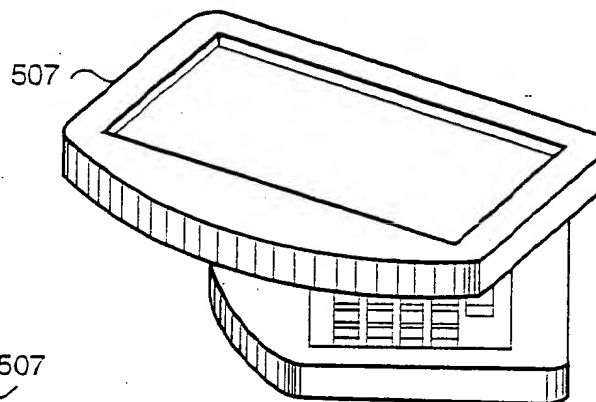


Figure 2E

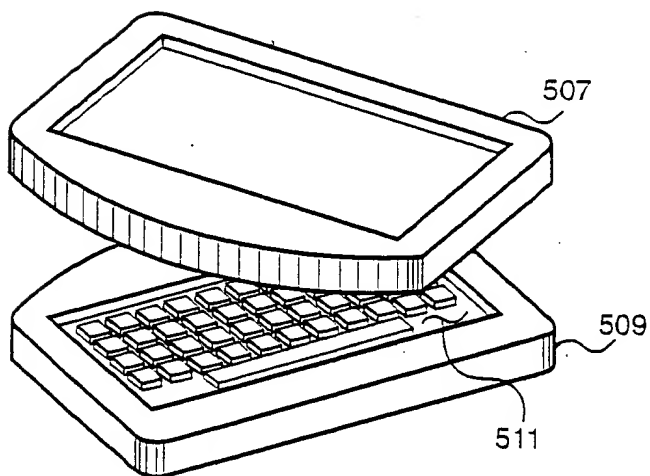


Figure 2F

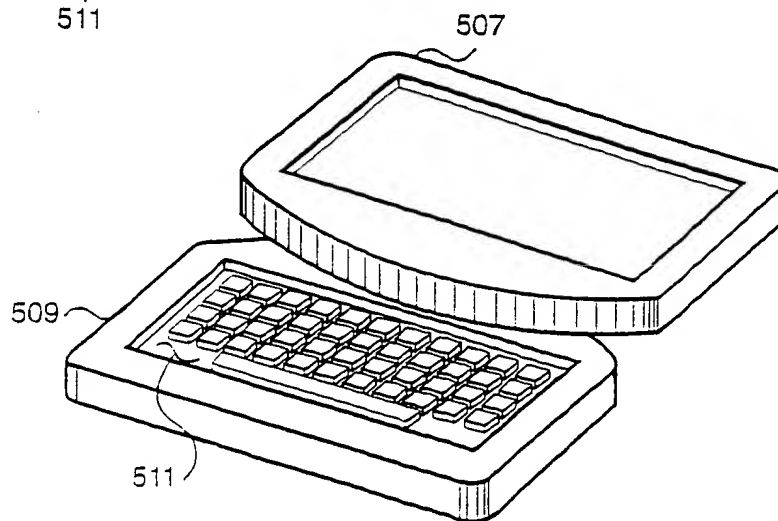


Figure 2G

2024-03-23 14:46:50

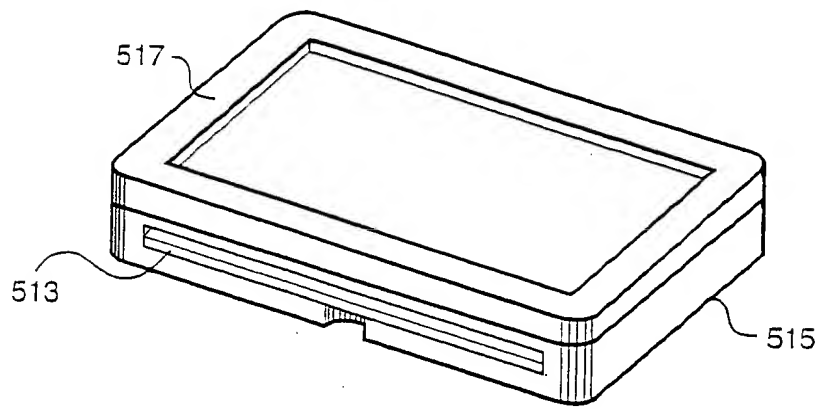


Figure 2H

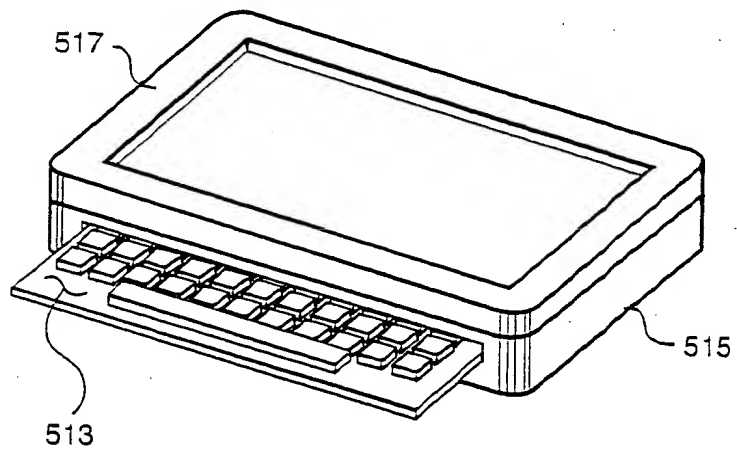


Figure 2I

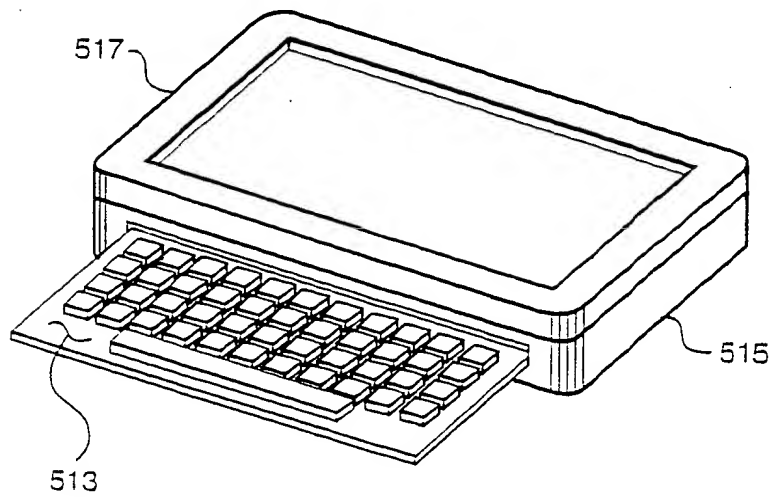


Figure 2J

603 607 613 615 617 619 621 623 625 627 629 631 633 635 637 639 641 643 645

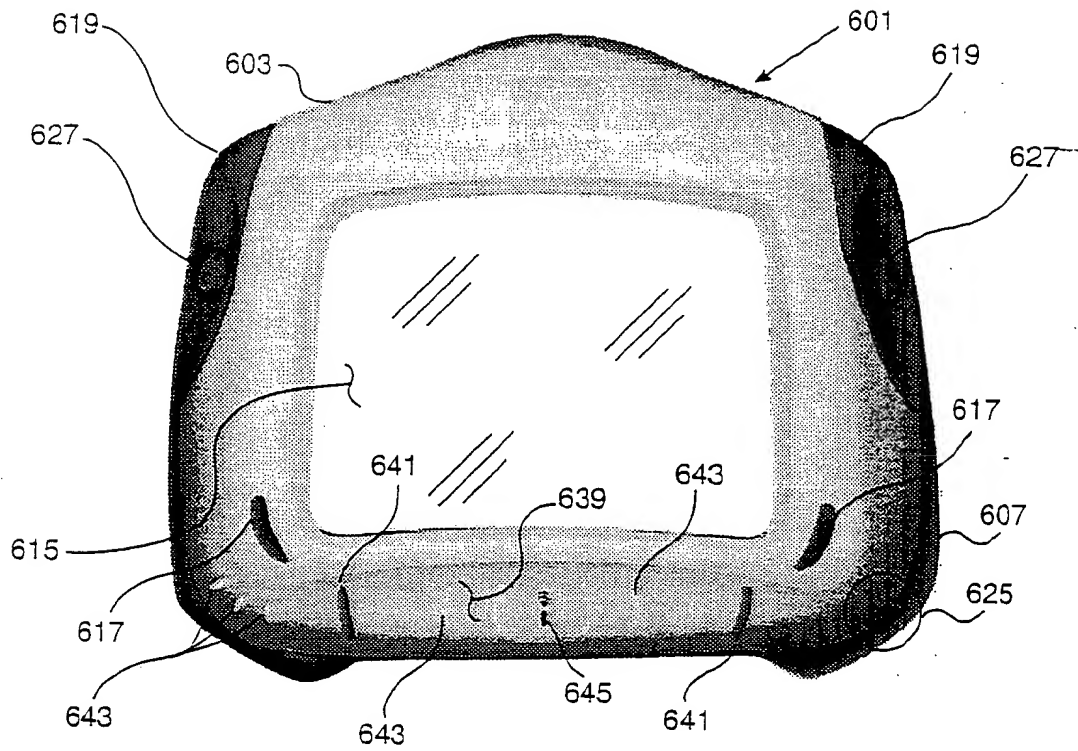


Figure 2K

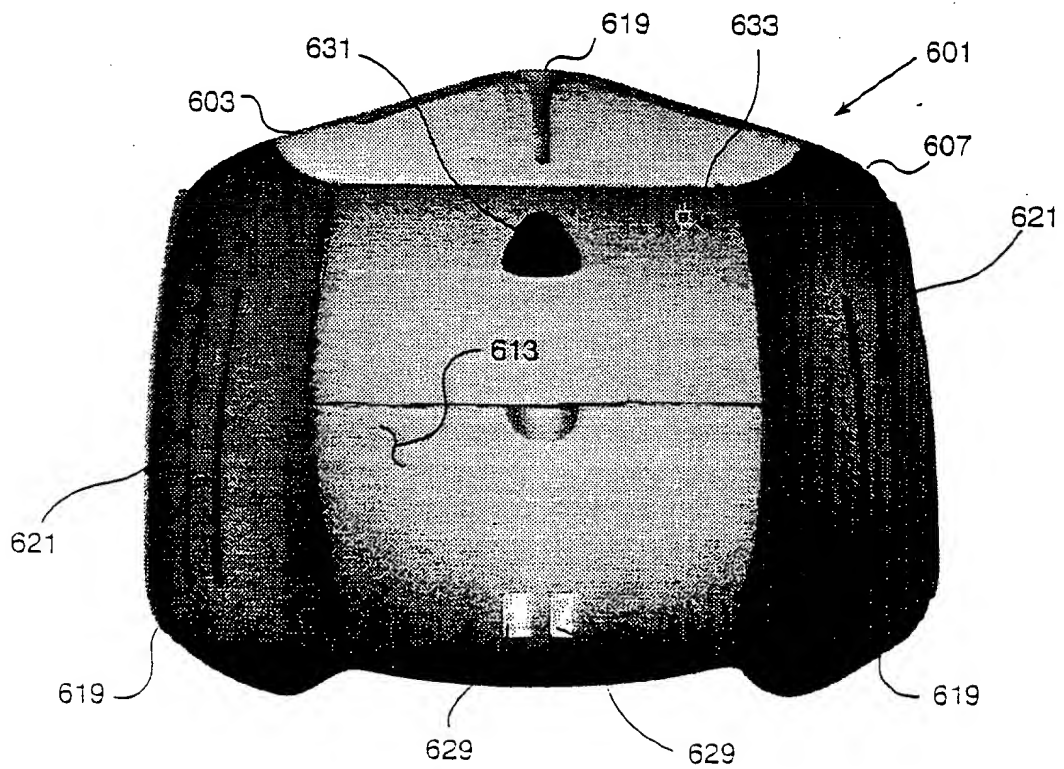


Figure 2L

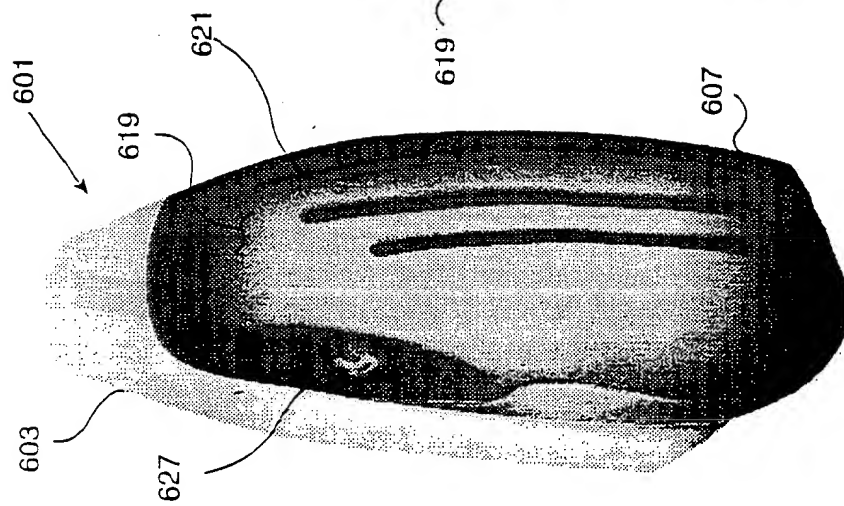
[illegible]

Figure 2M

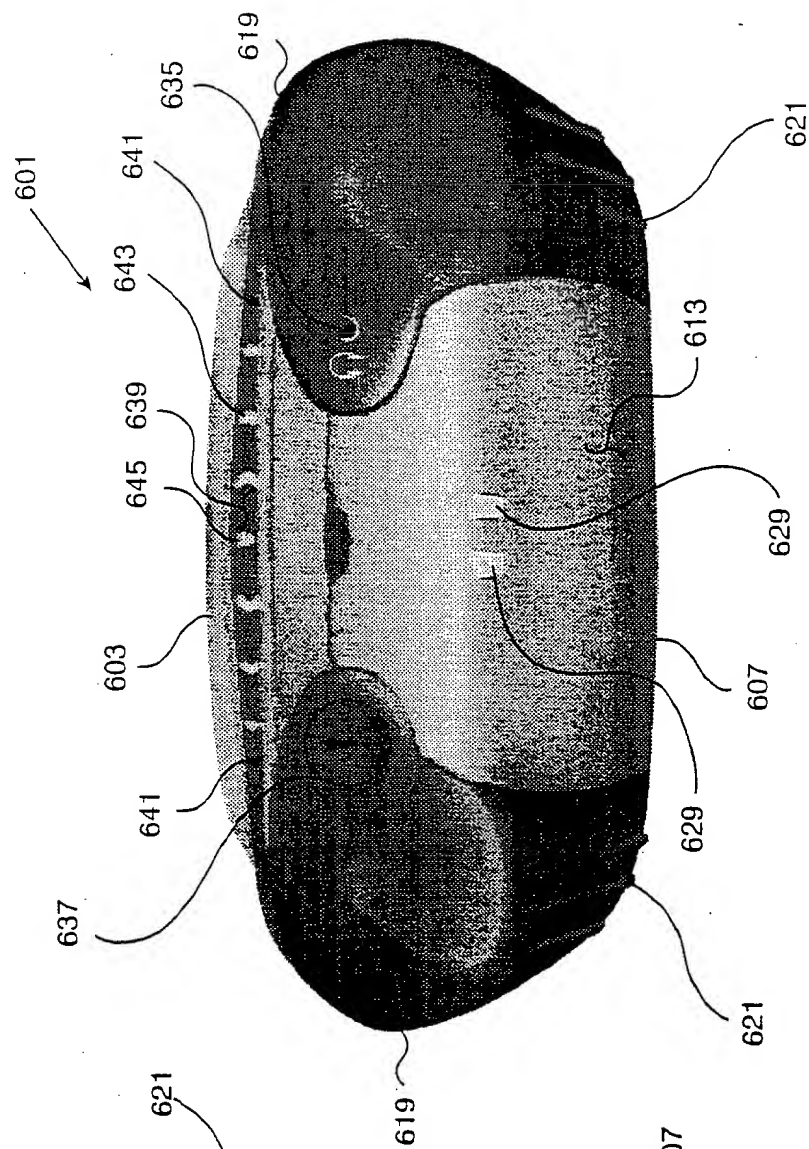


Figure 2N

603 617 619 627 607 605 643 641 639 645 643 641 625 627 619 617 615

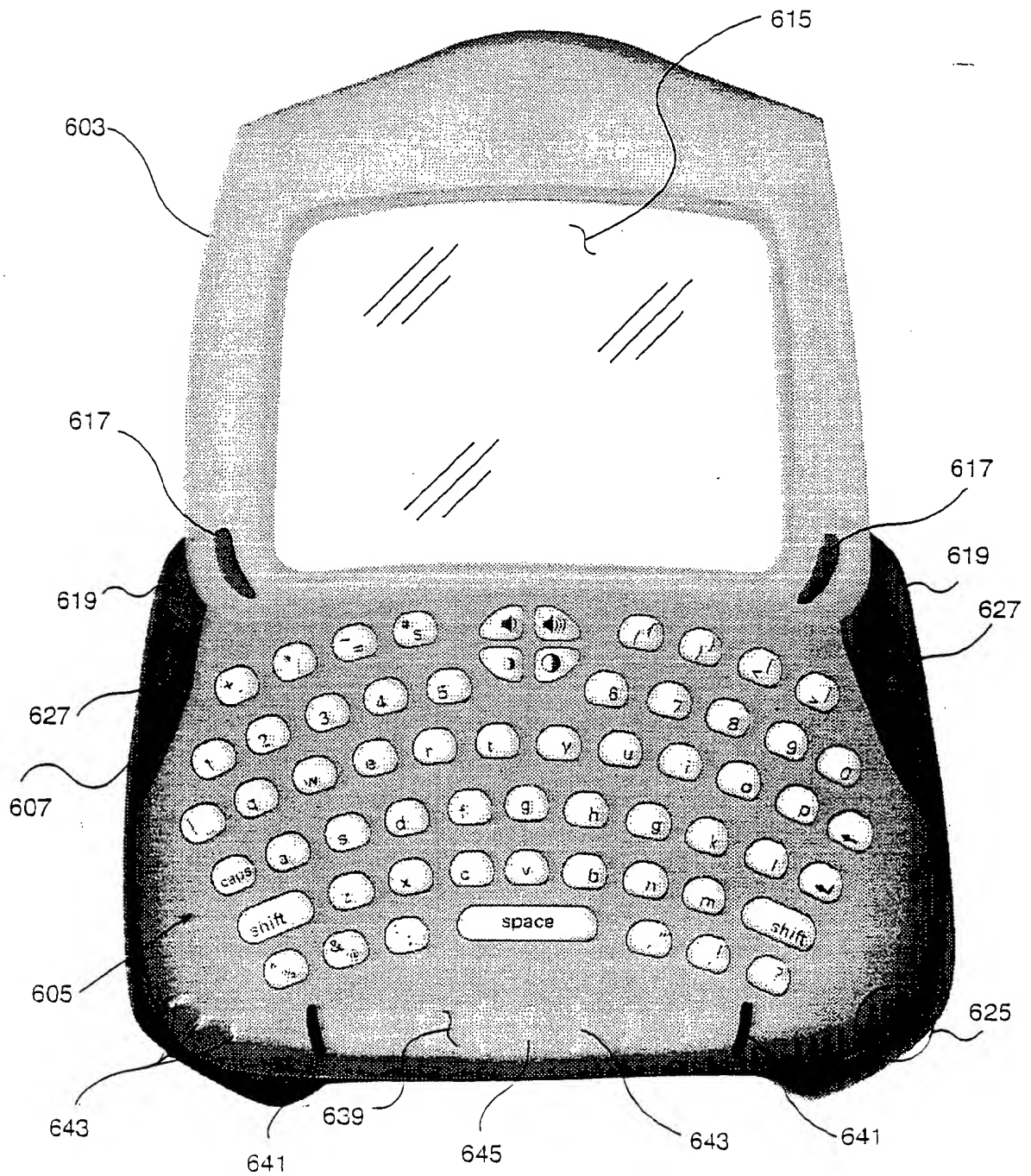


Figure 20

20251012044660

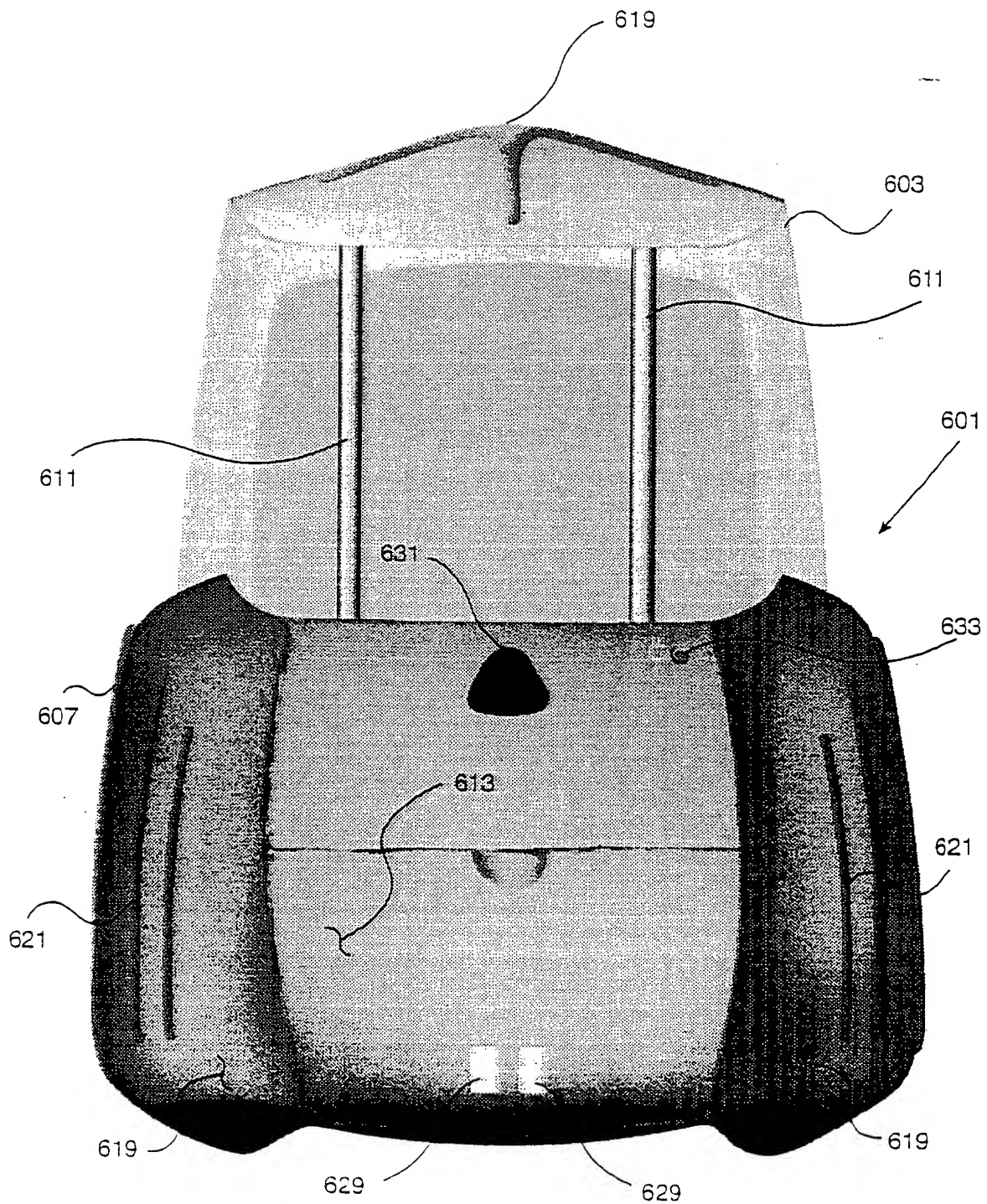


Figure 2P

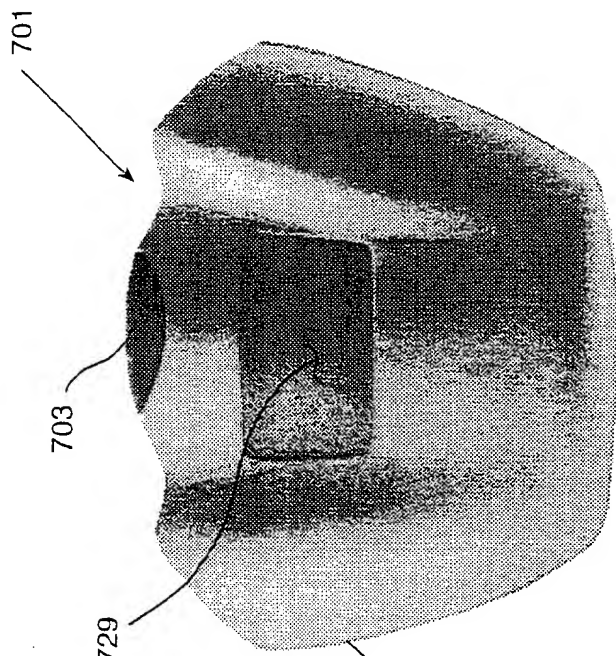


Figure 2R

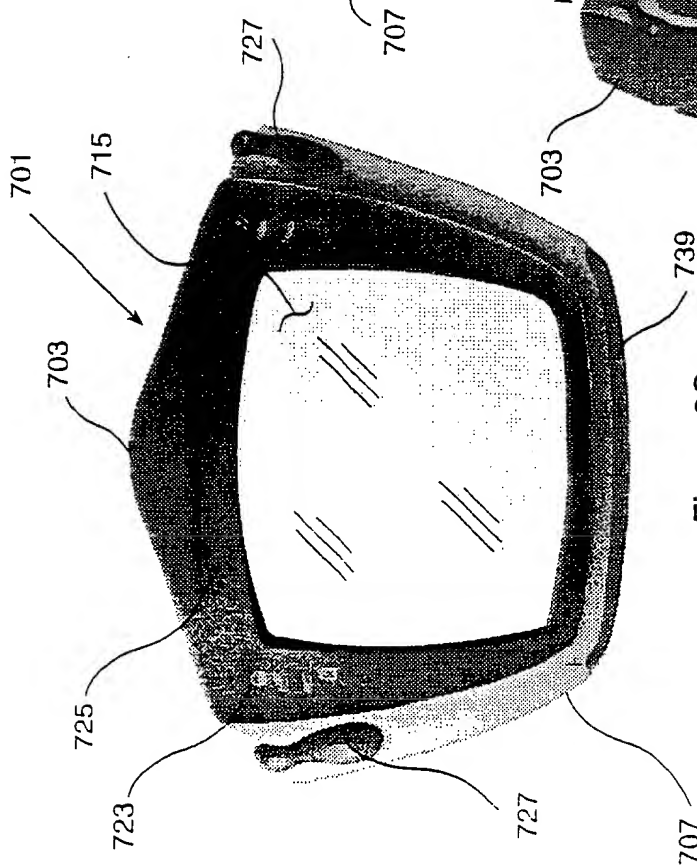


Figure 2Q

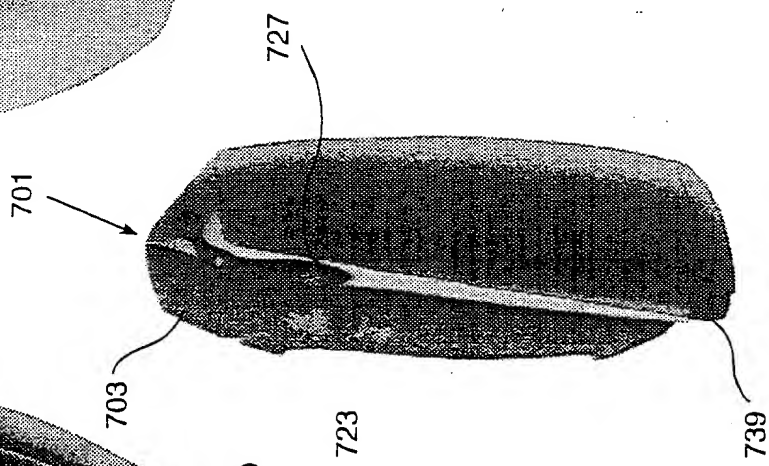


Figure 2S

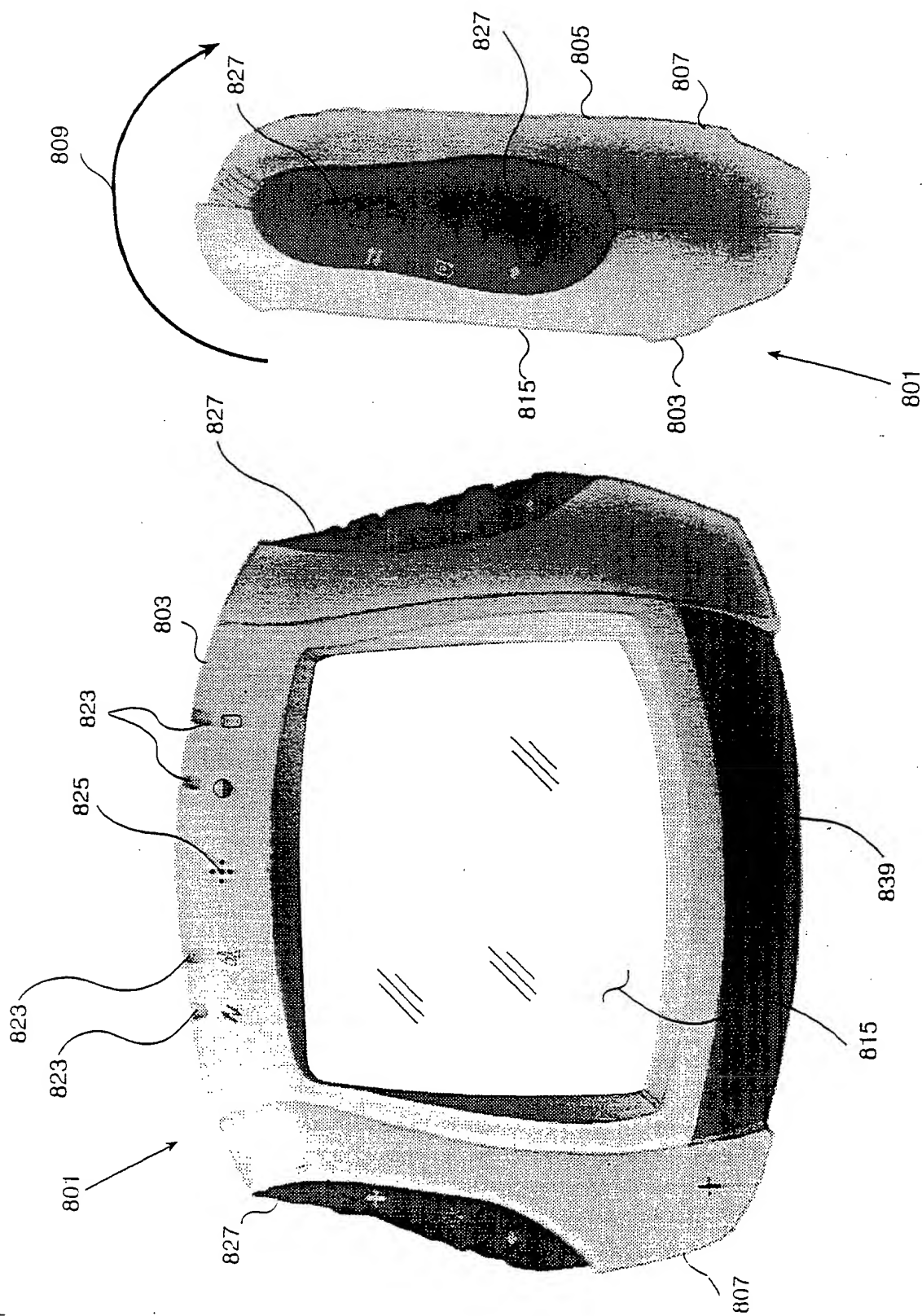


Figure 2T

Figure 2U

205470 2844660

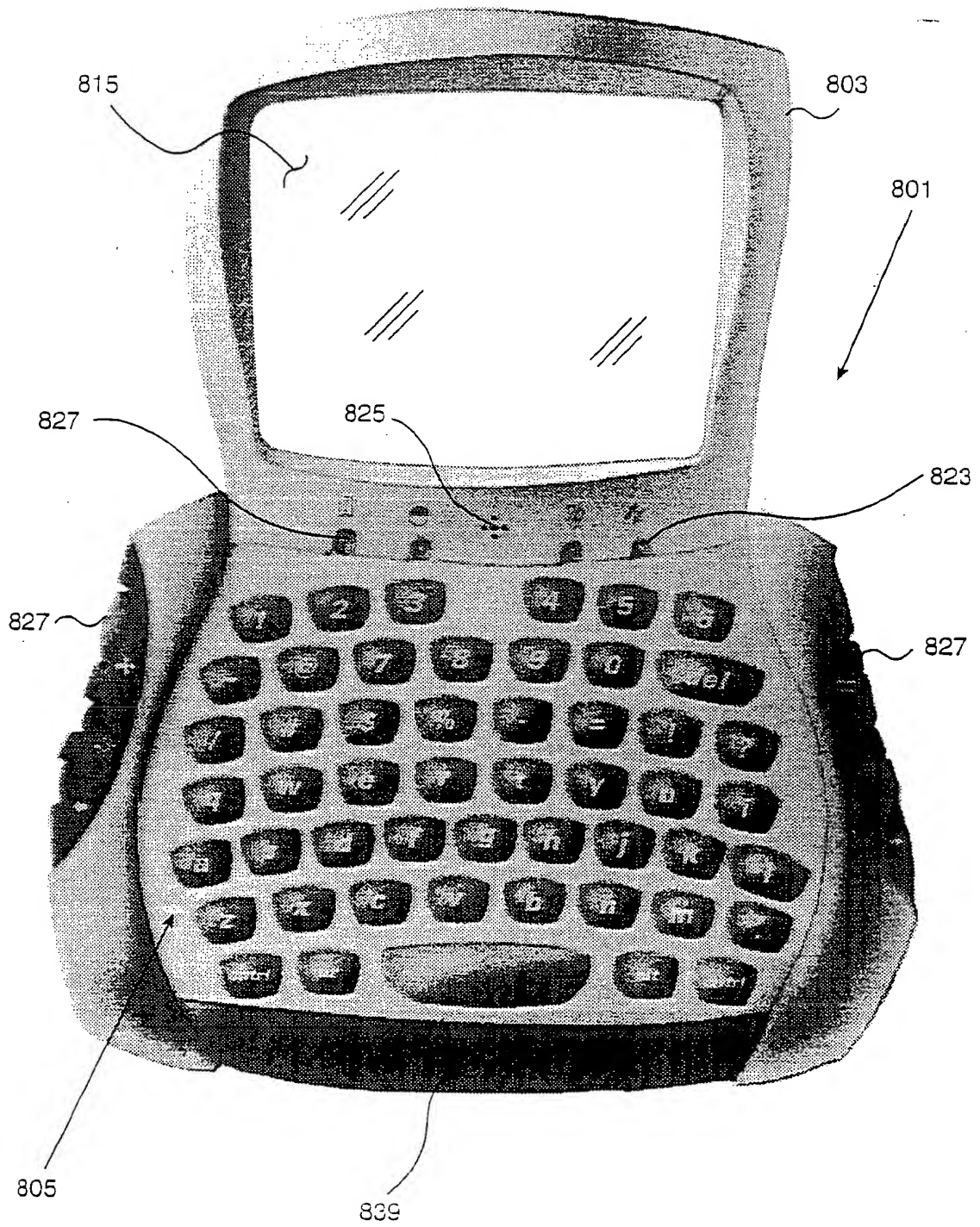


Figure 2V

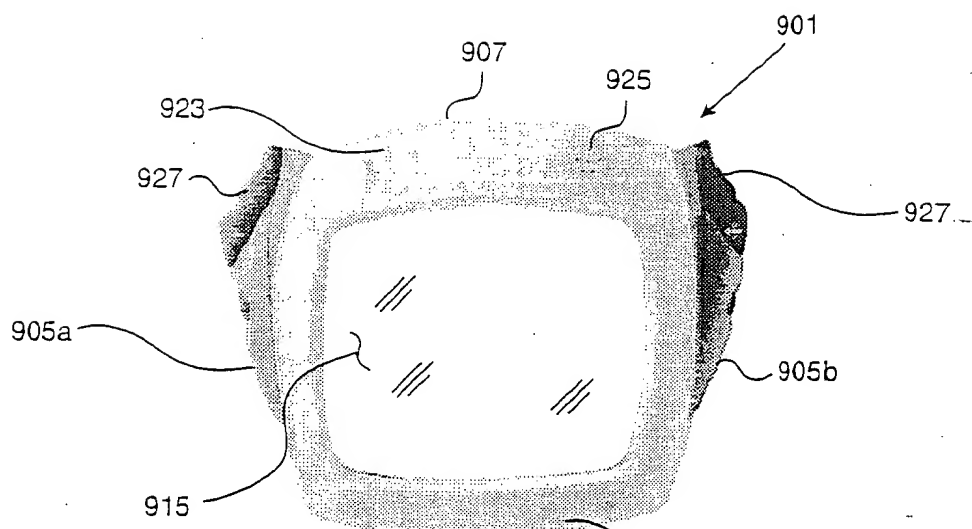
[illegible]

Figure 2W

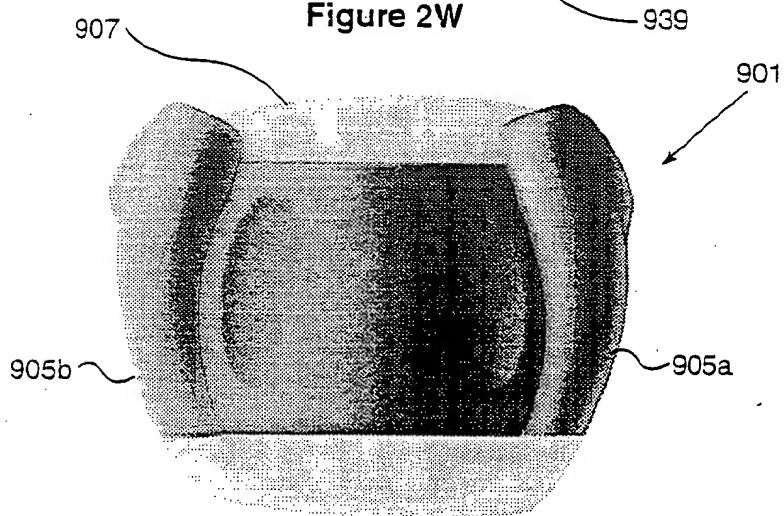


Figure 2X

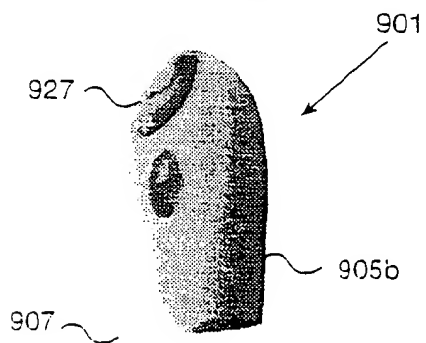


Figure 2Y

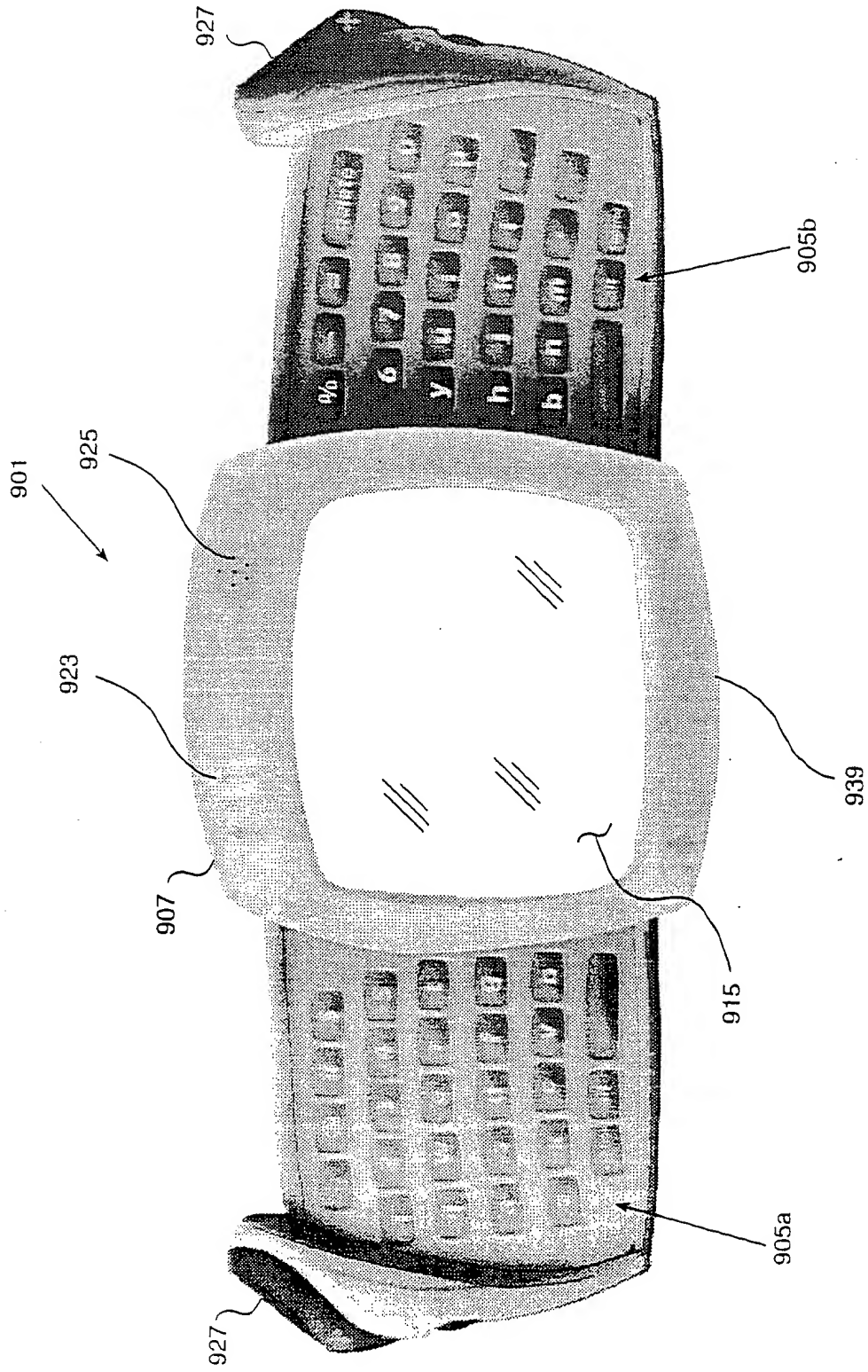


Figure 2Z

FIG. 3A is a block diagram of a system 1500.

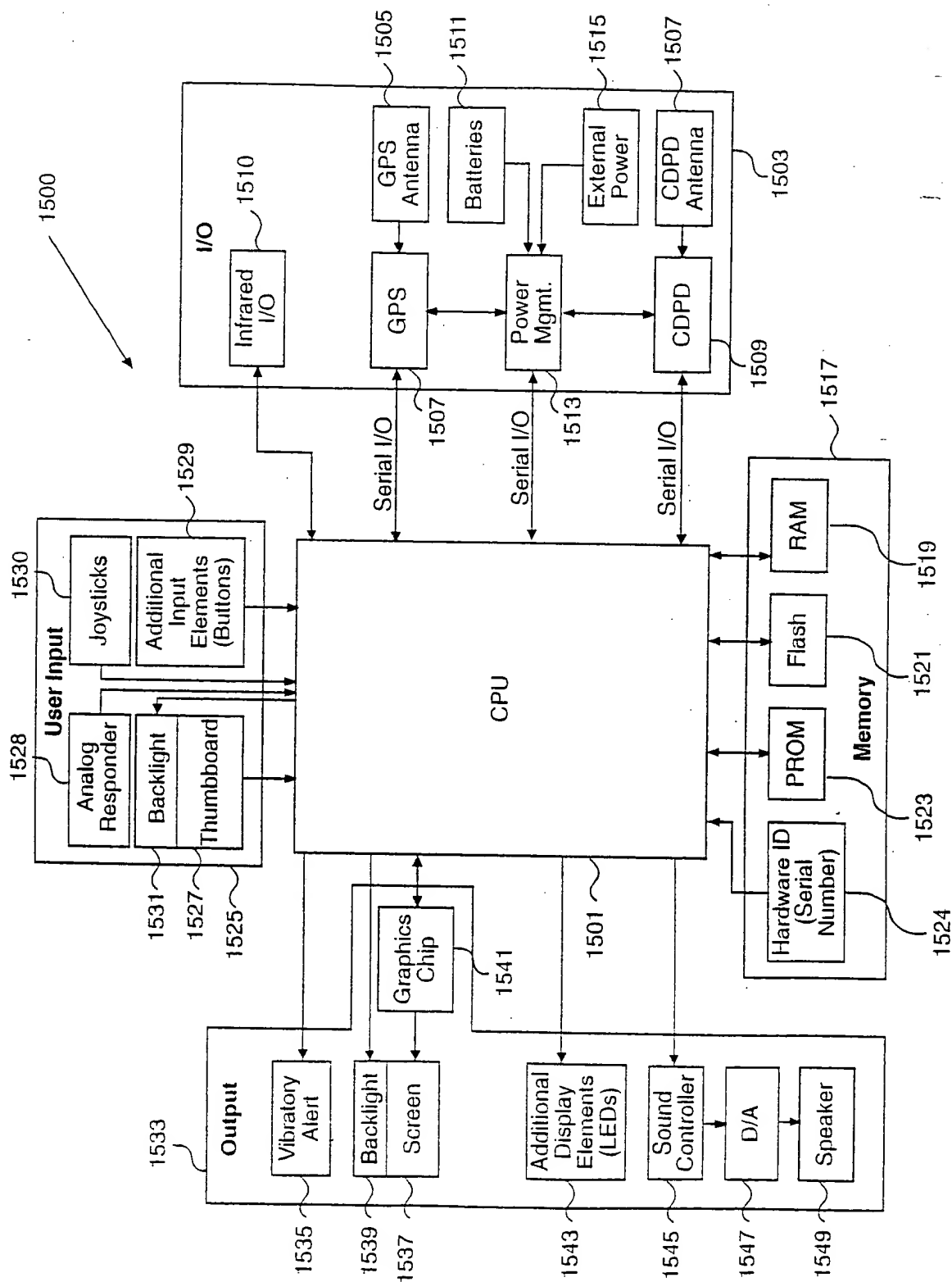


Figure 3A

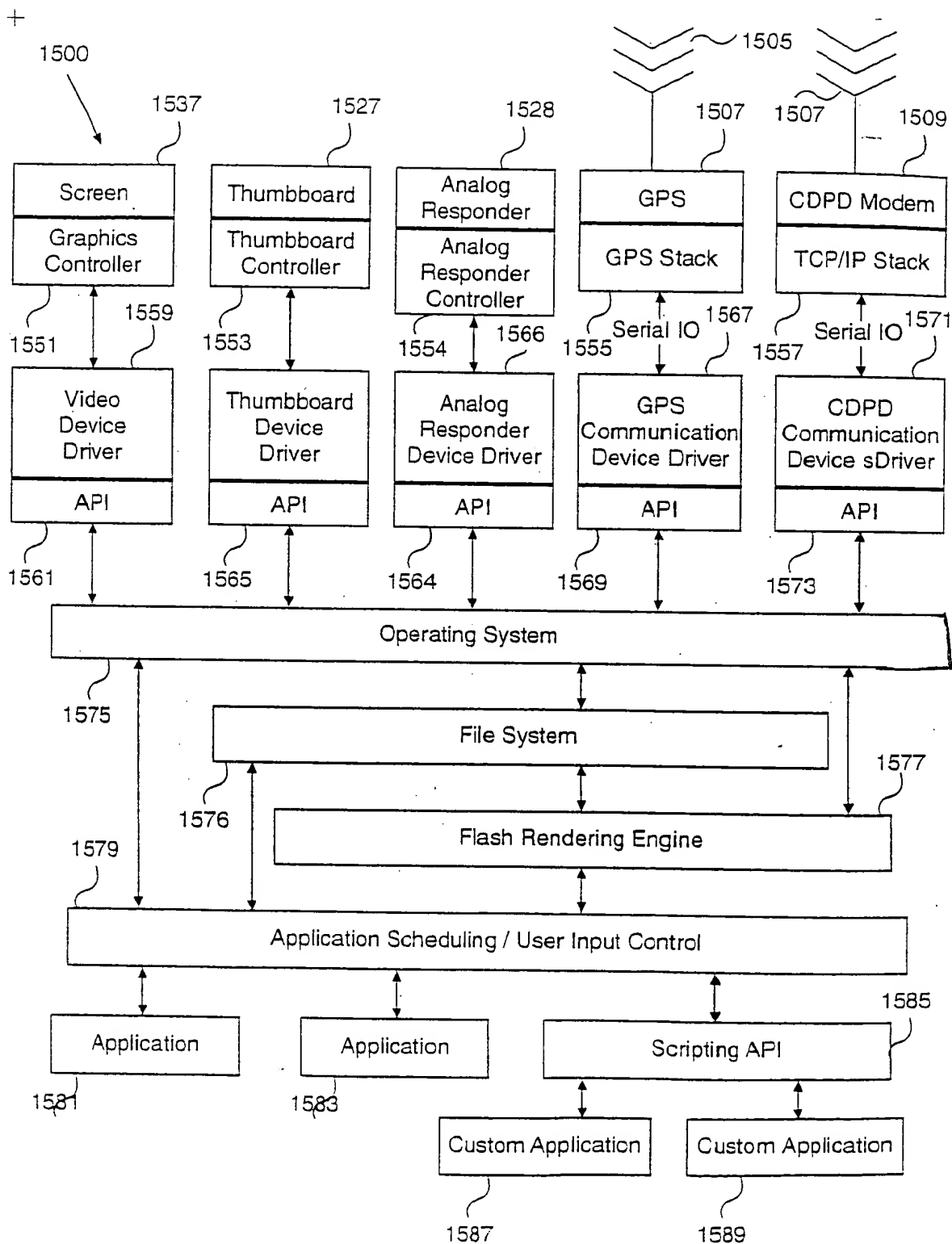


Figure 3B

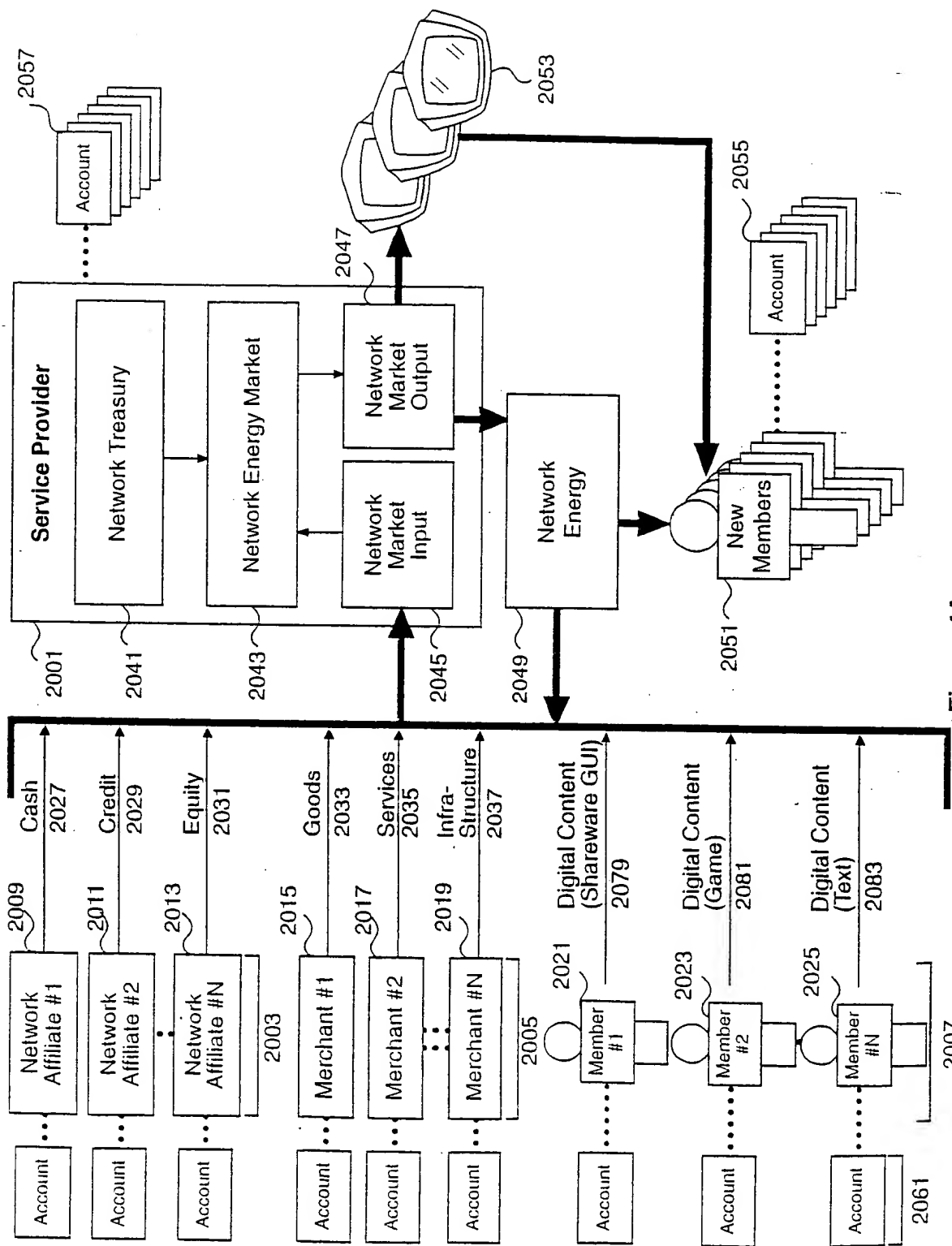


Figure 4A

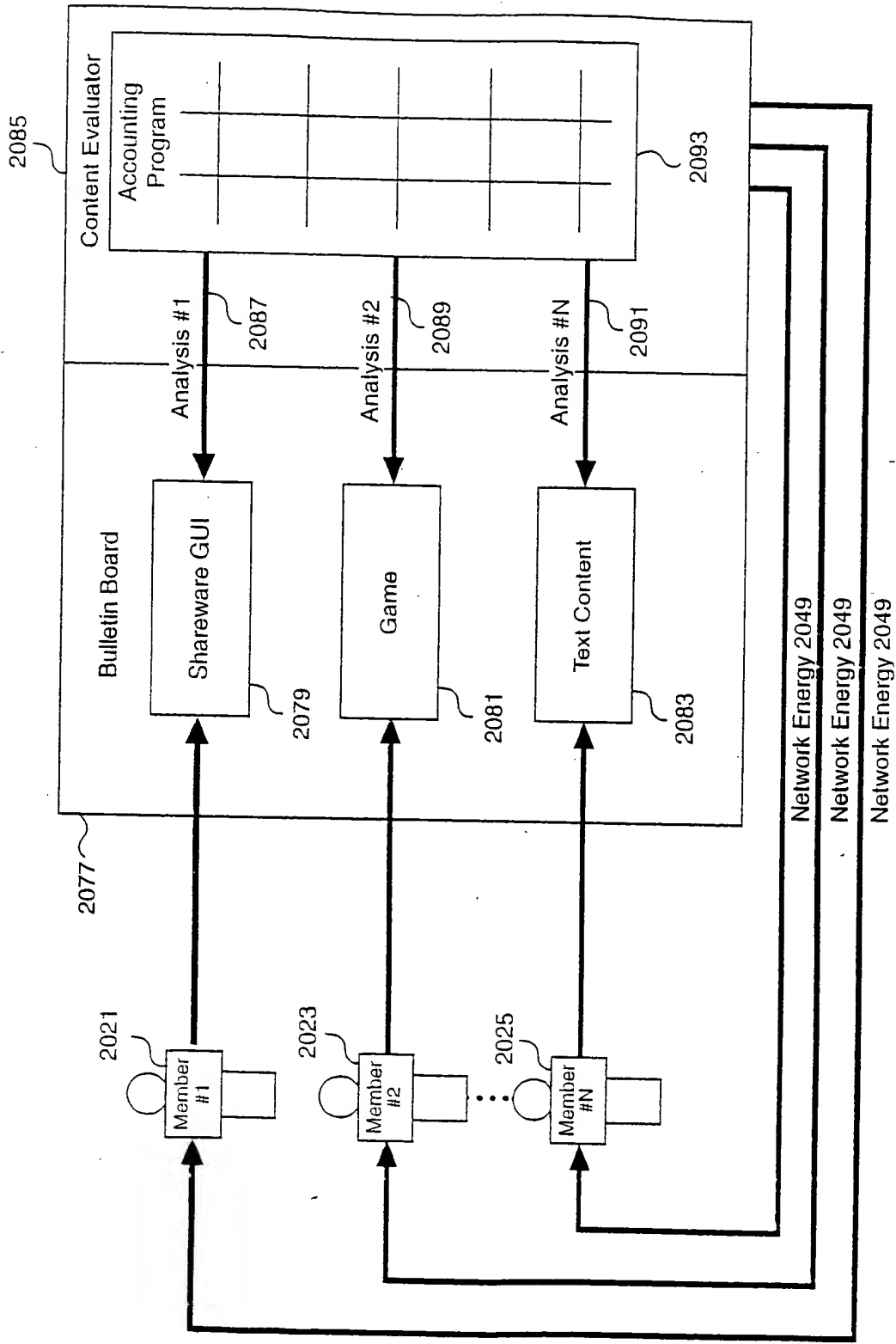


Figure 4B

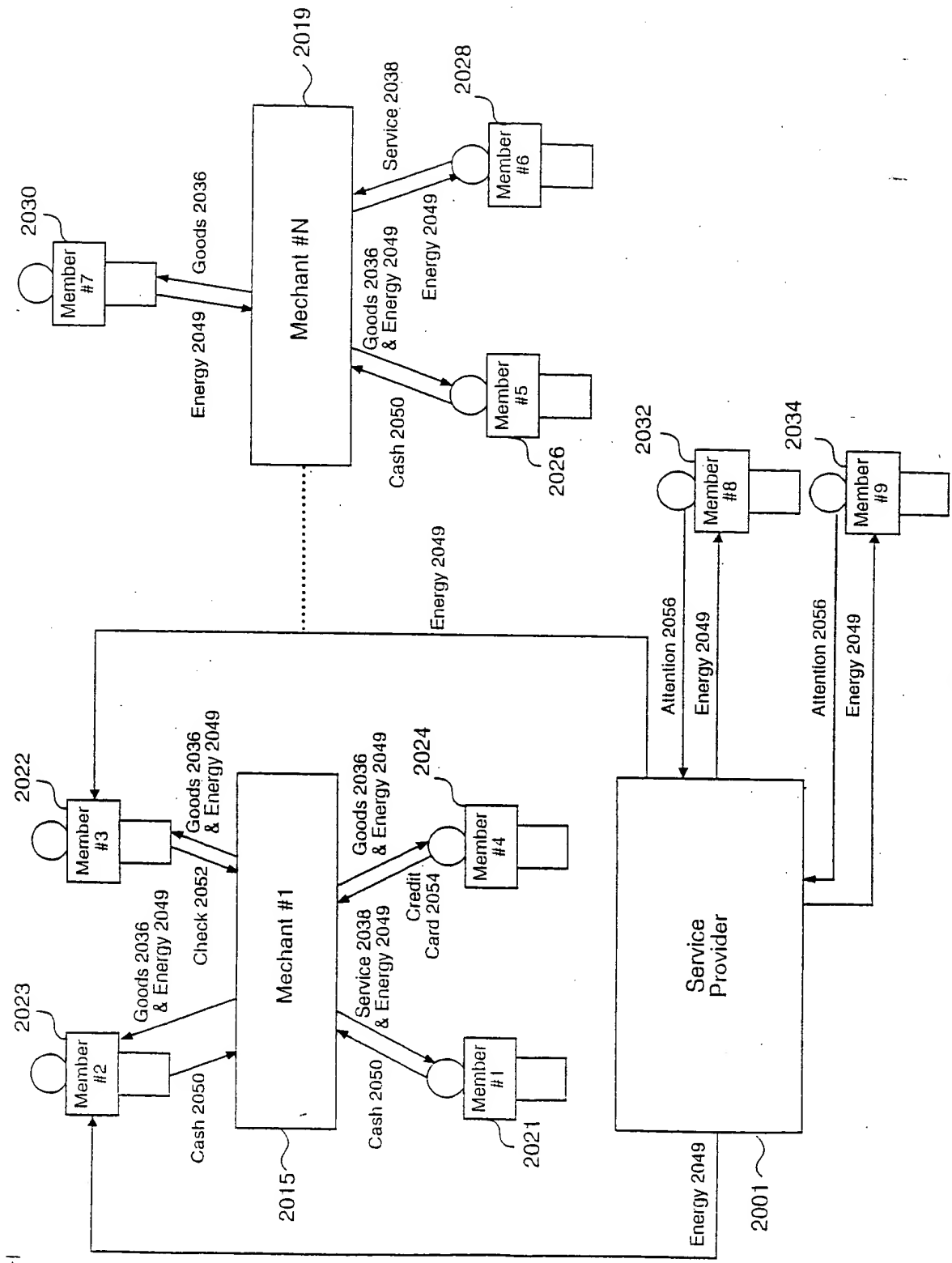


Figure 4C

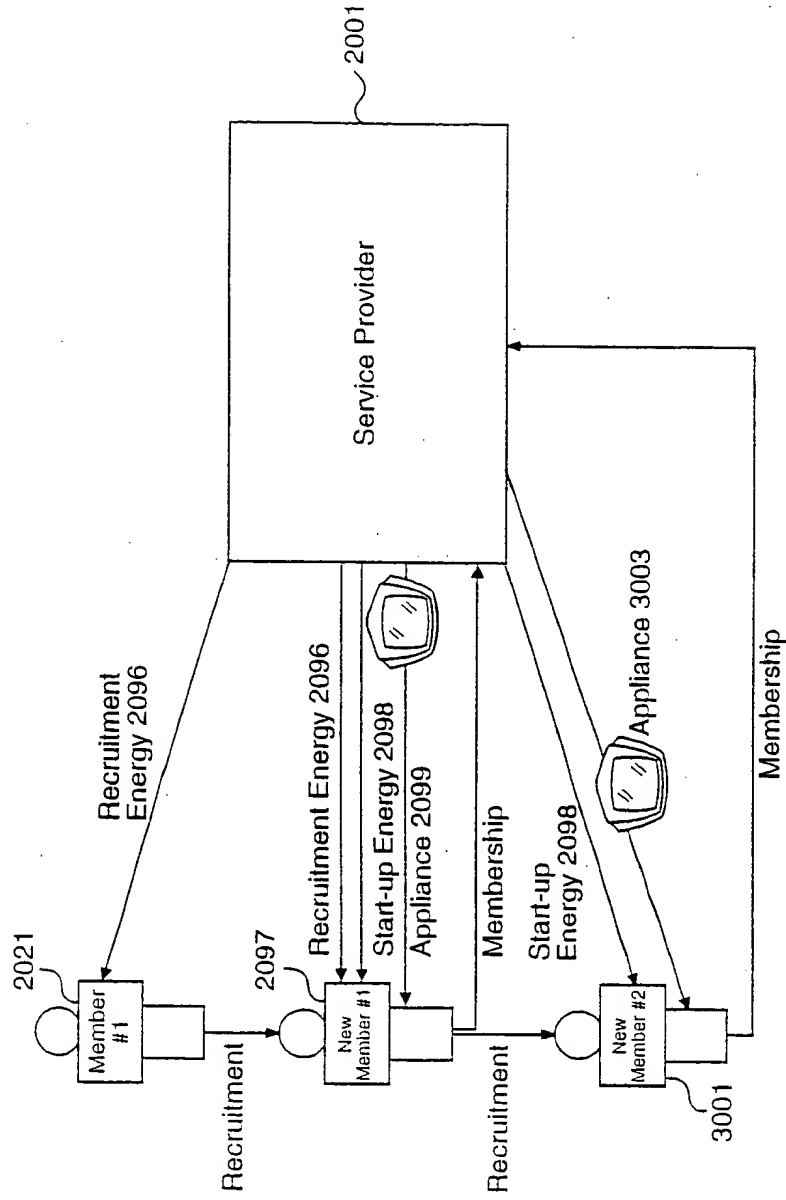


Figure 4D

Type of Input Element	Non-Biasing	Starting Position	Needs On-Screen Indicator	Continuous
One-Dimensional Touch Pad	Yes	No	No	Yes
Elongated Button	Yes	No	No	Yes
Touch Screen with Graphical Slider	Yes	No	Yes	Yes
Jog Wheel	No	Yes	Yes	Yes
Scroll Wheel	No	No	Yes	Yes
Thumb Wheel	No	No	Yes	Yes
Linear Sliding Knob	No	Yes	No	Yes
Touch Screen with Graphical Radio Buttons	Yes	No	Yes	No
Dedicated Buttons on Keyboard	Yes	No	No	No
Two-Dimensional Touch Pad	Yes	No	No	Yes

Figure 5A

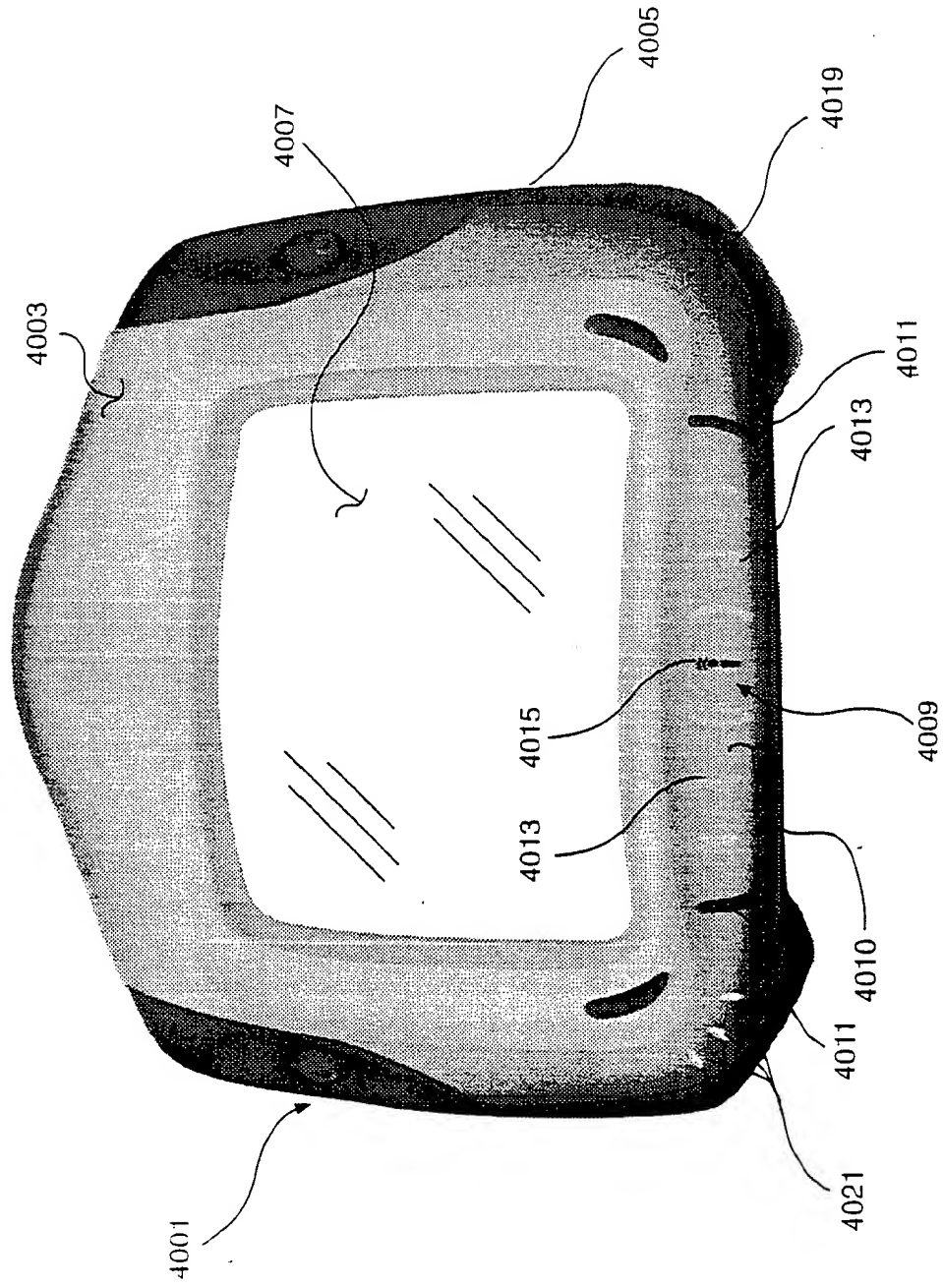


Figure 6A

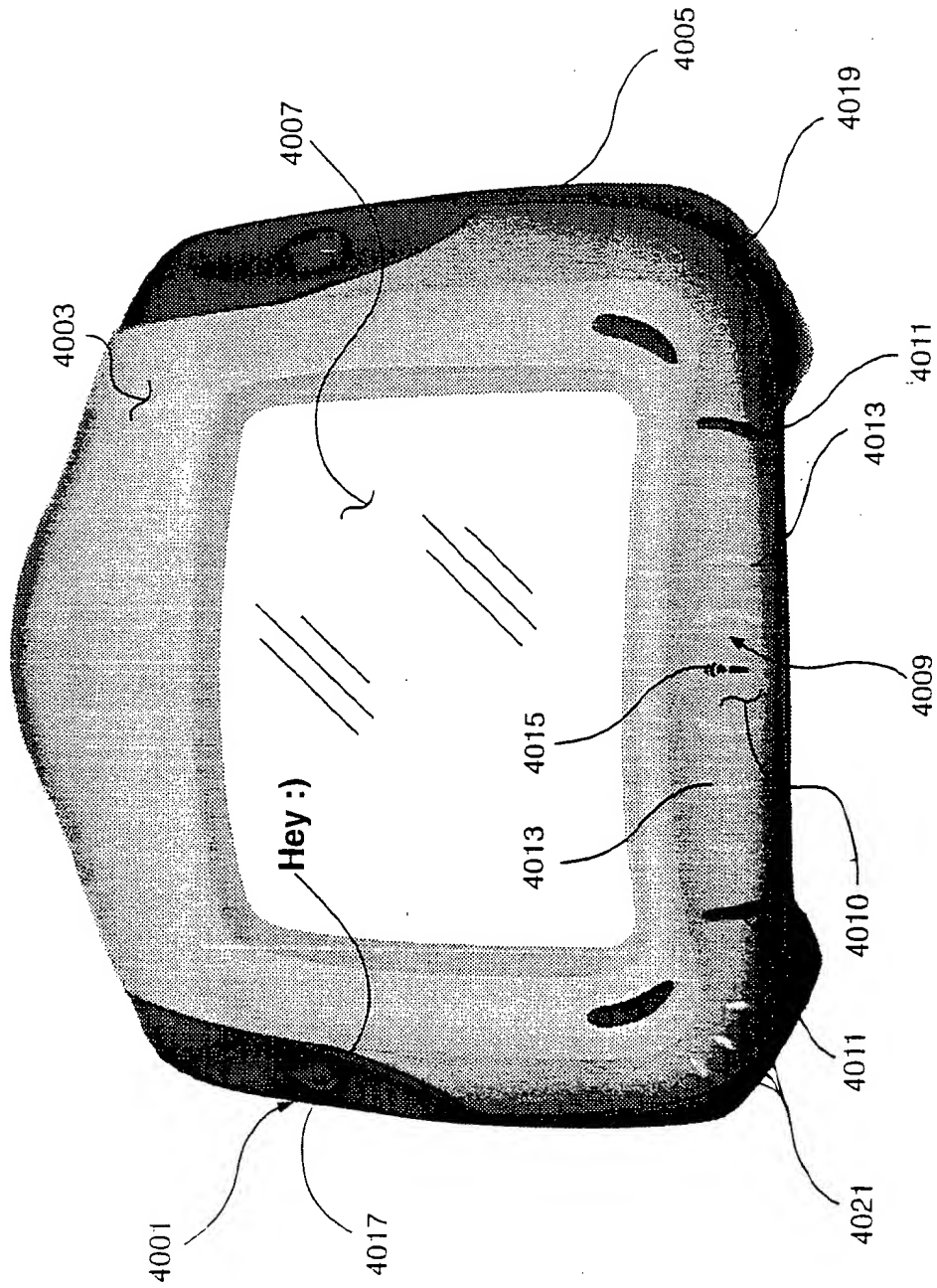
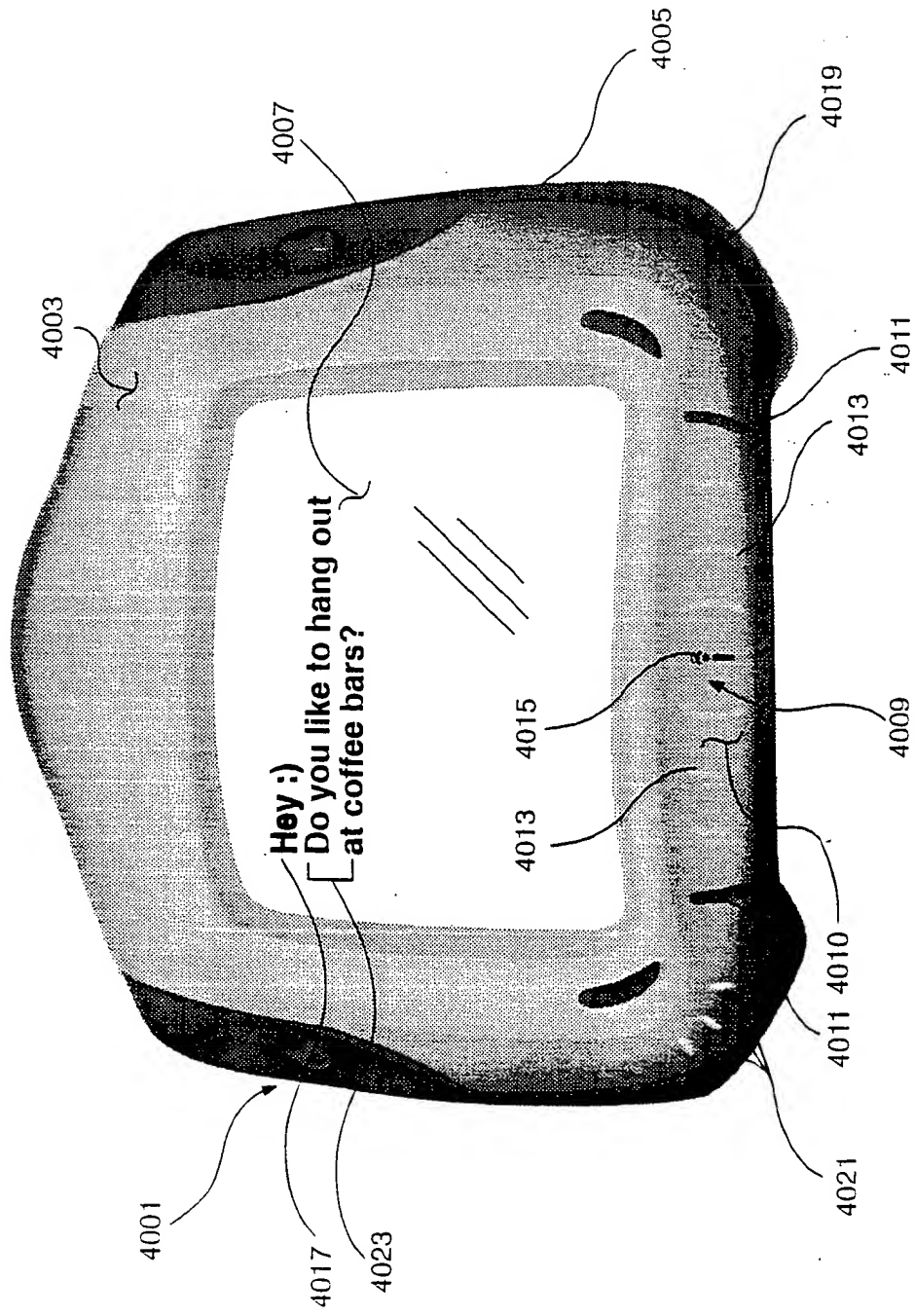


Figure 6B

1. The first part of the paper is devoted to the study of the asymptotic behavior of the solutions of the system (1) as $t \rightarrow \infty$. It is shown that the solutions of the system (1) tend to zero as $t \rightarrow \infty$ if and only if the matrix A is stable.



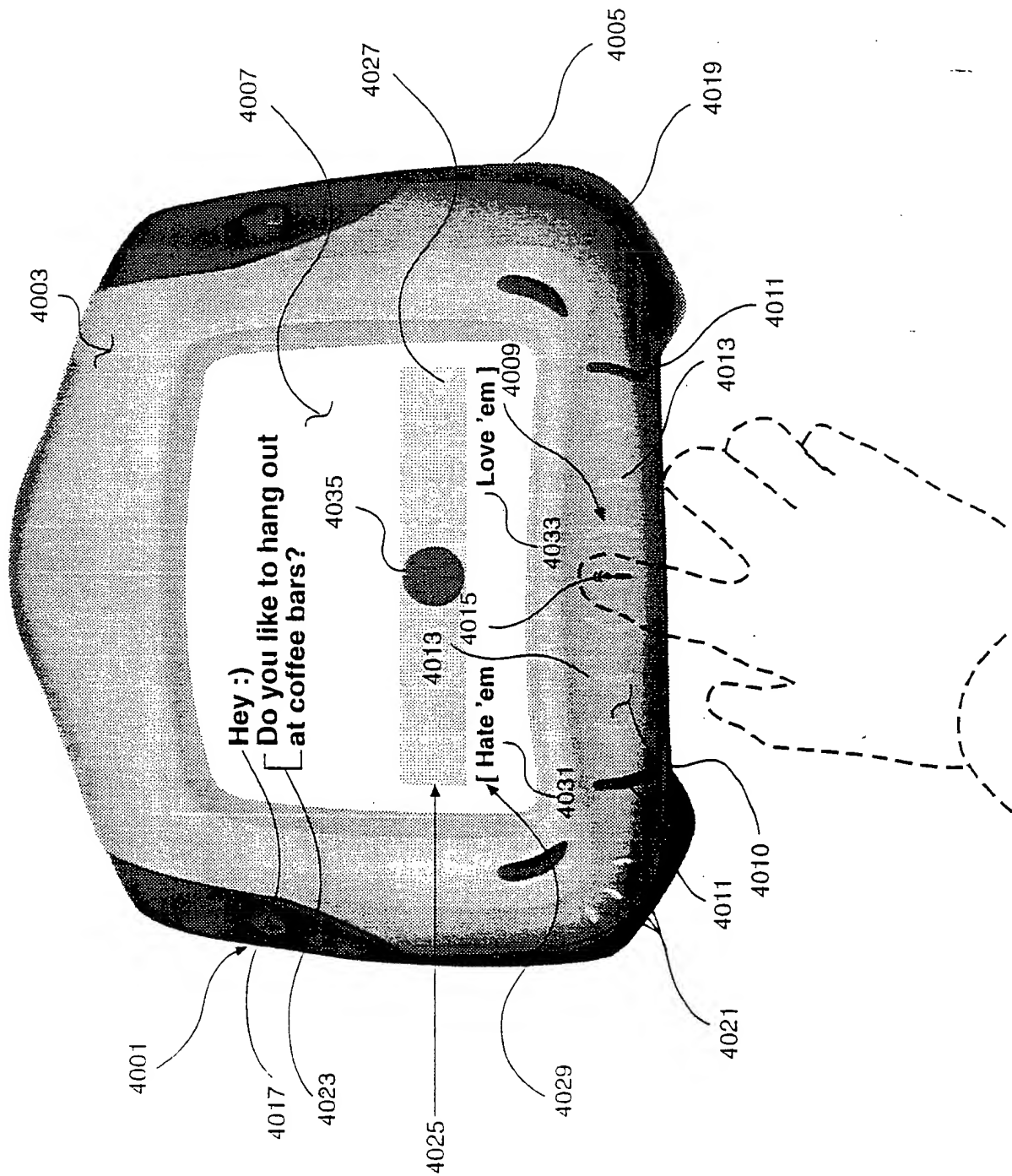
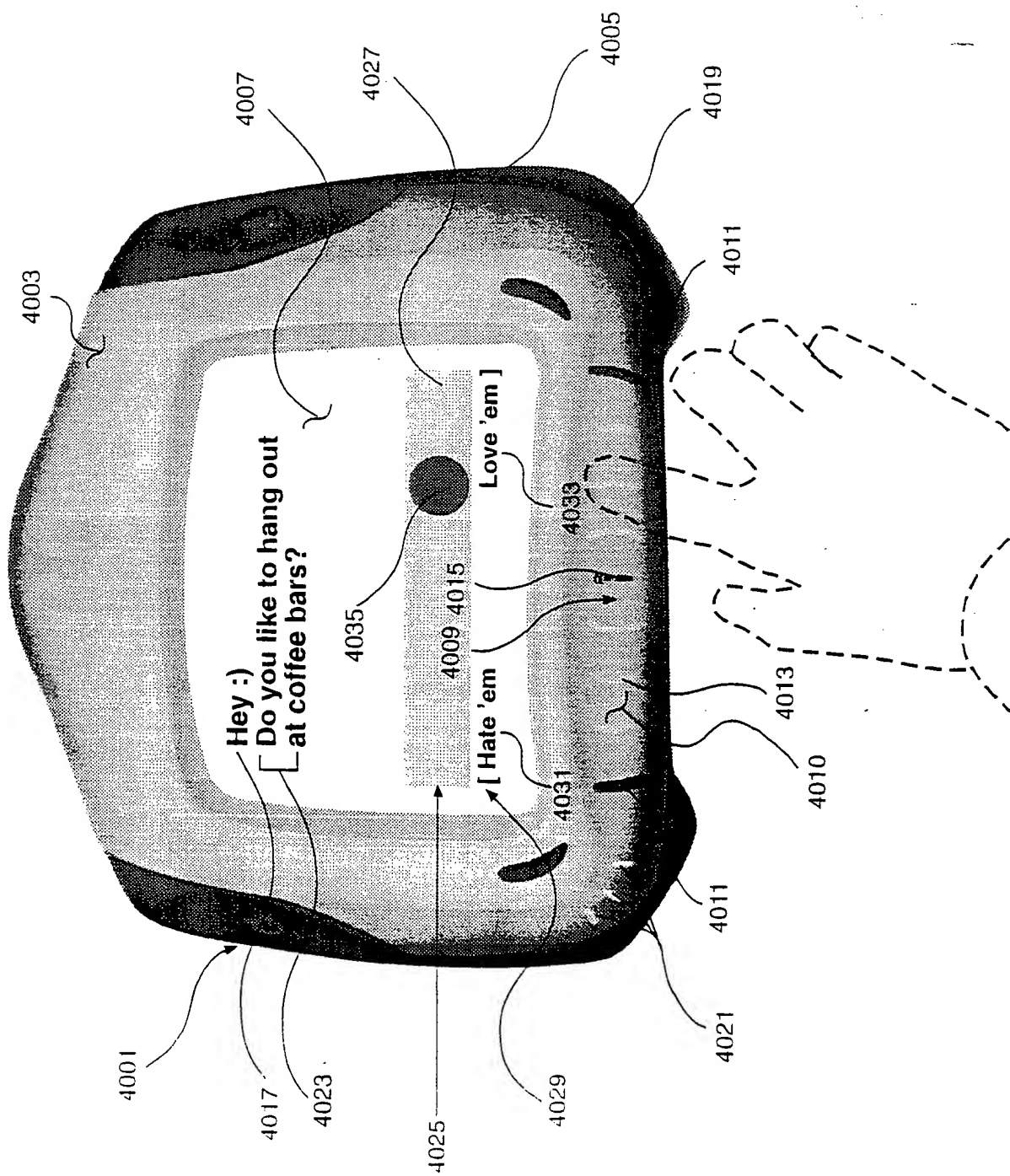


Figure 6D



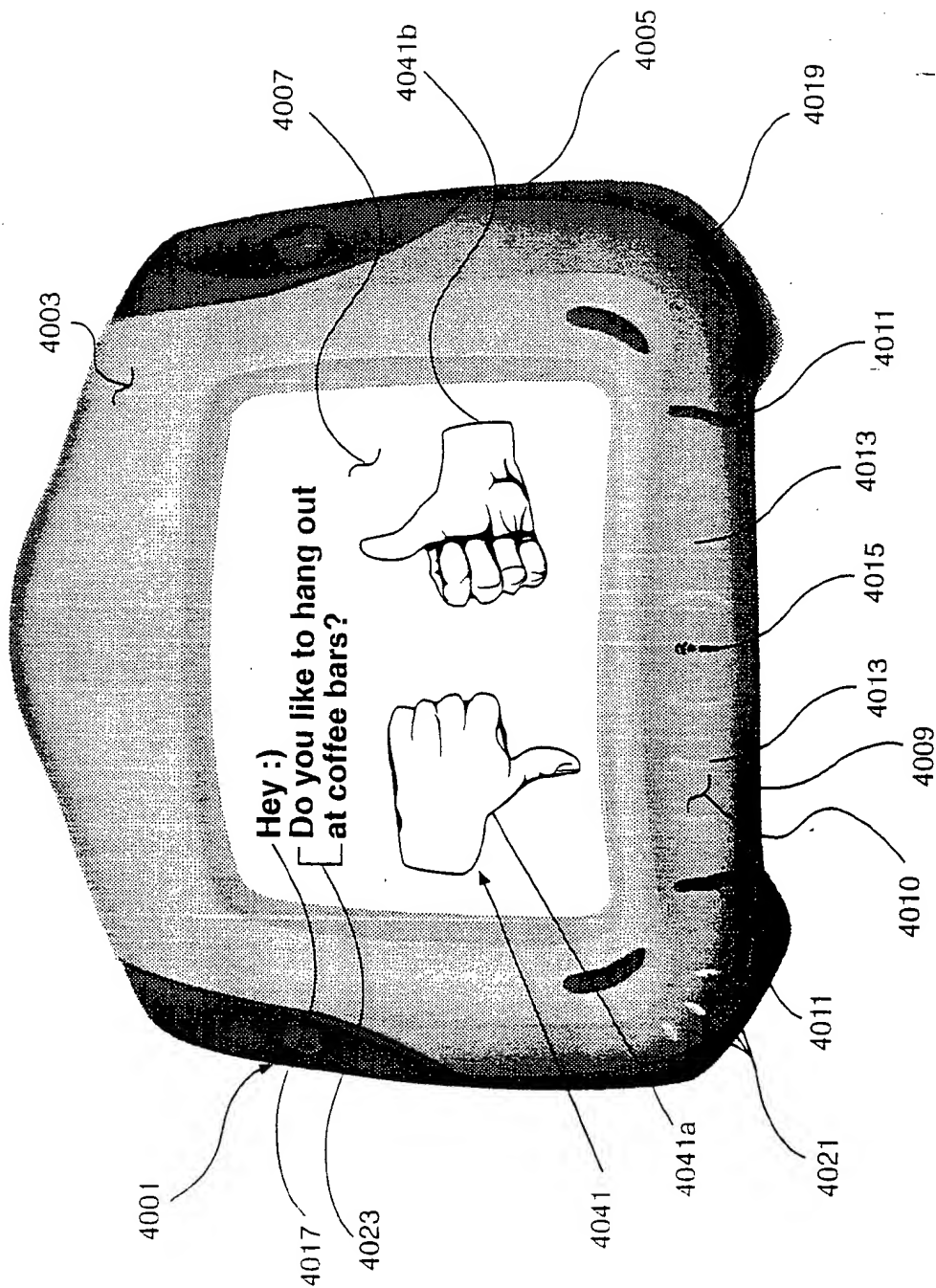


Figure 6F

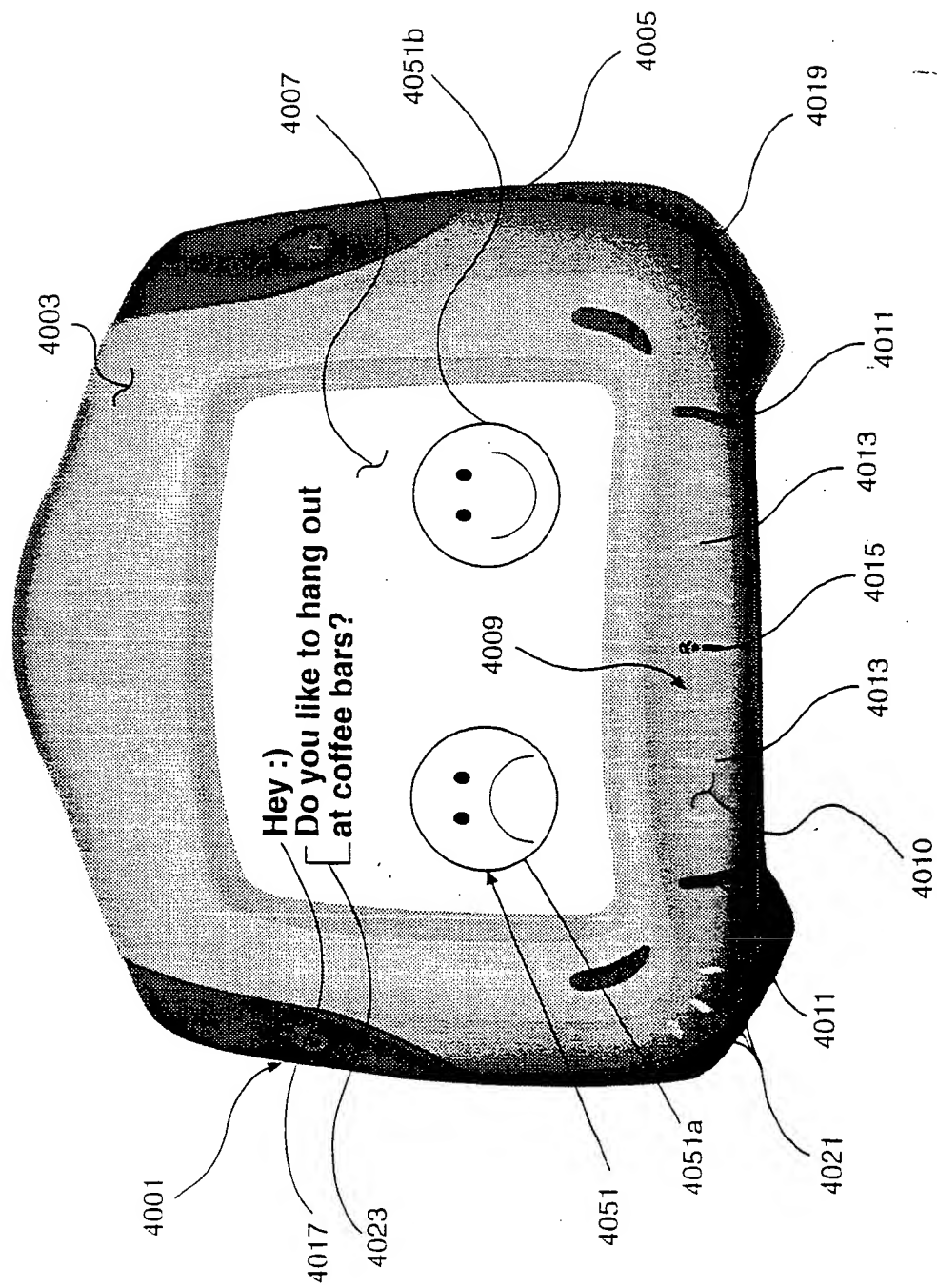


Figure 6G

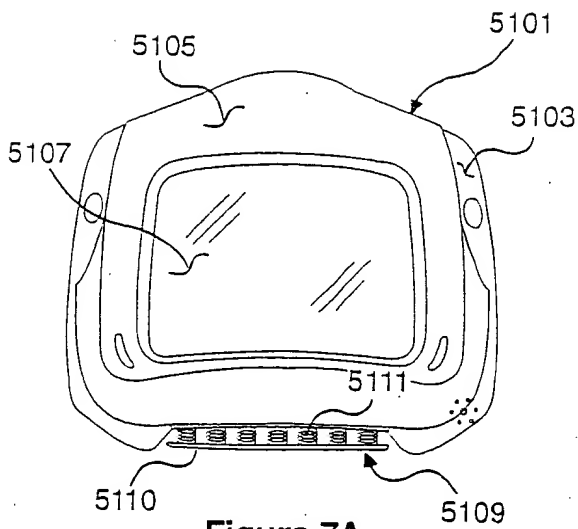


Figure 7A

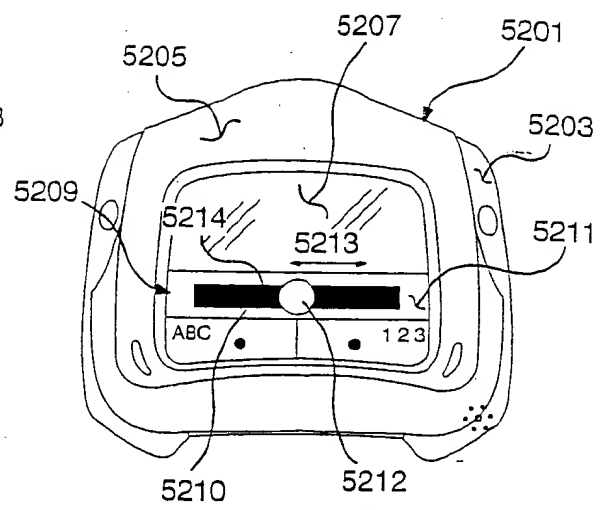


Figure 7B

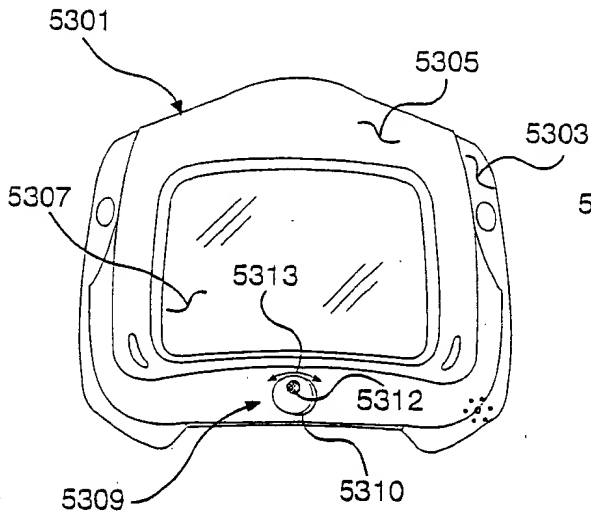


Figure 7C

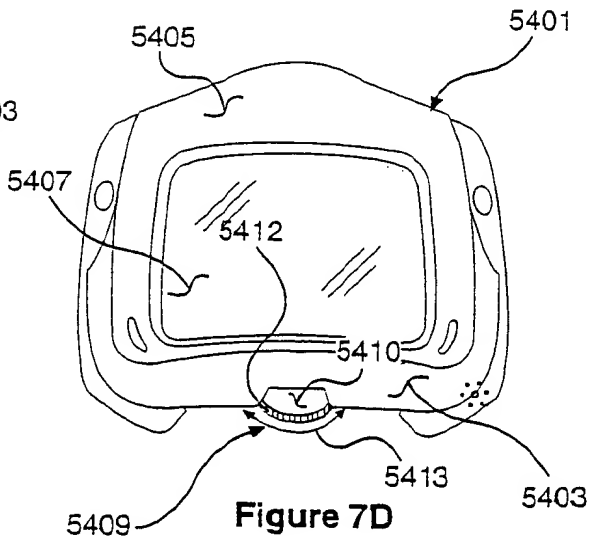


Figure 7D

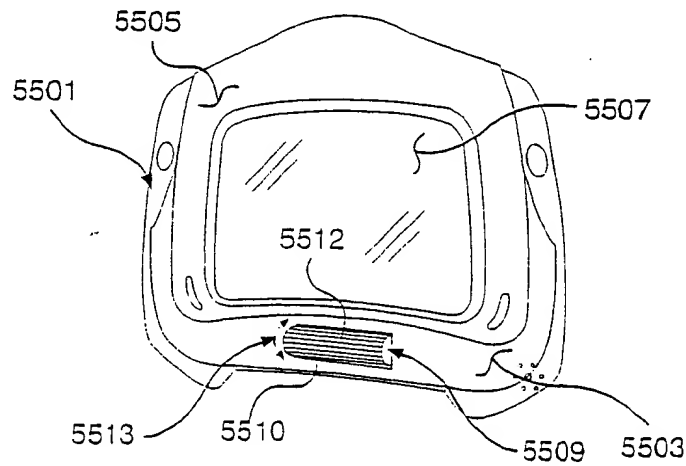


Figure 7E

2025-06-20 22:44:56

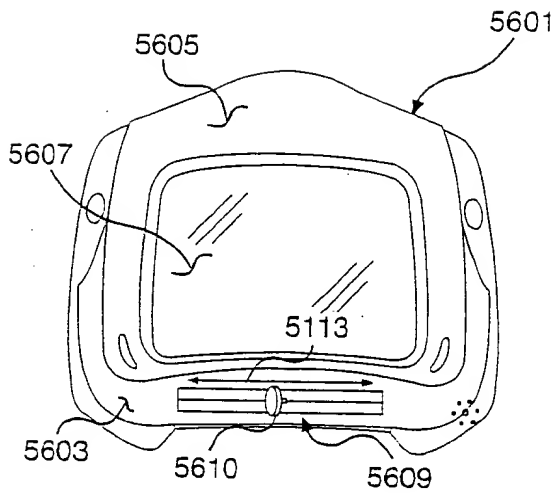


Figure 7F

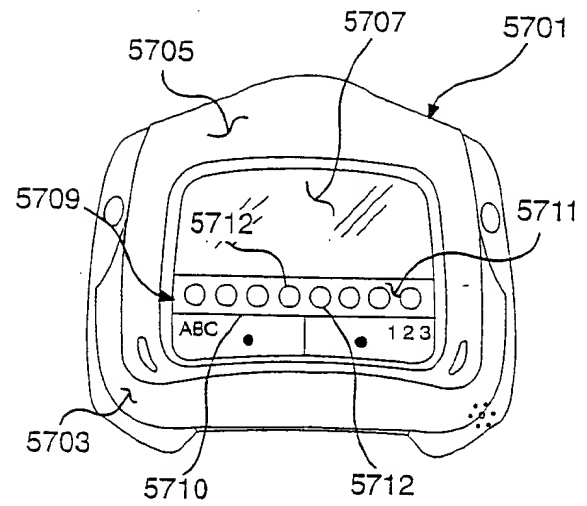


Figure 7G

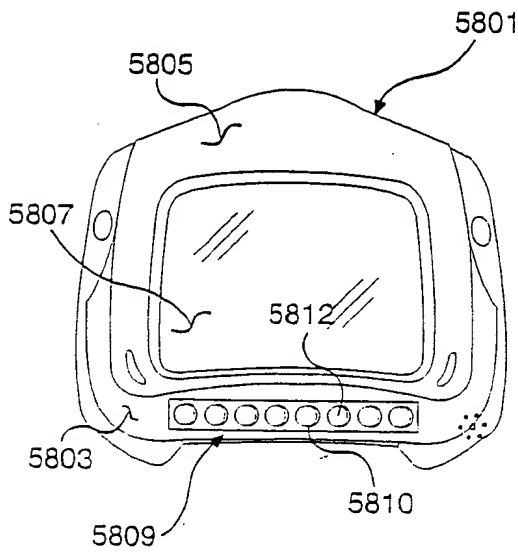


Figure 7H

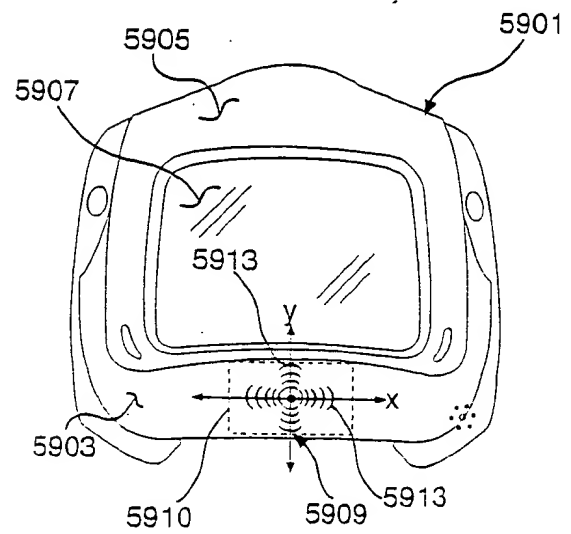


Figure 7I

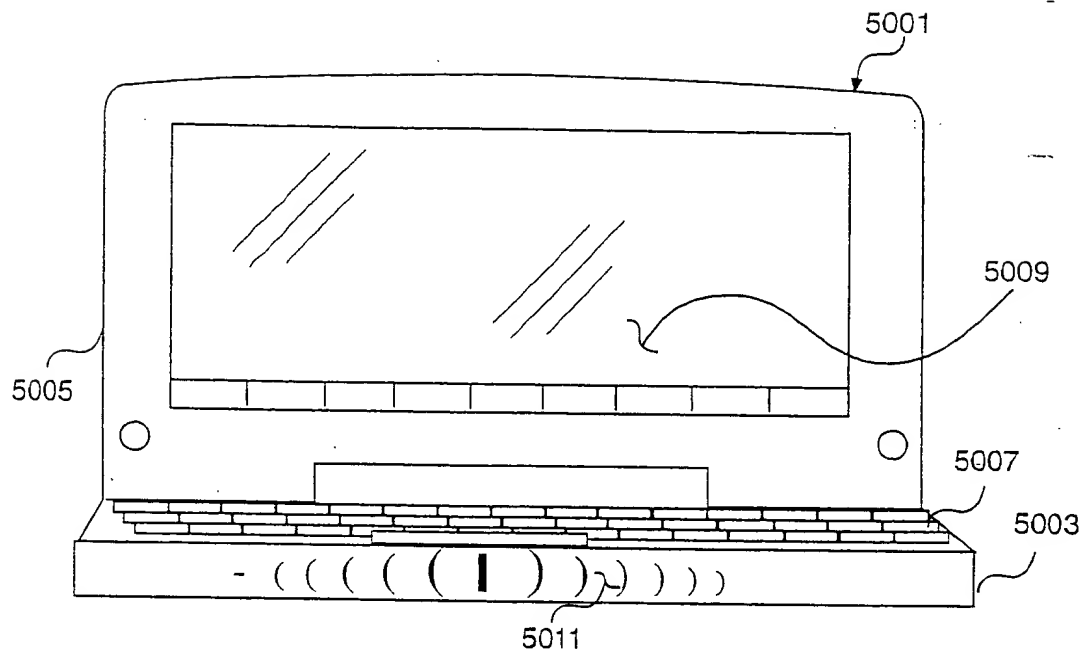


Figure 8A

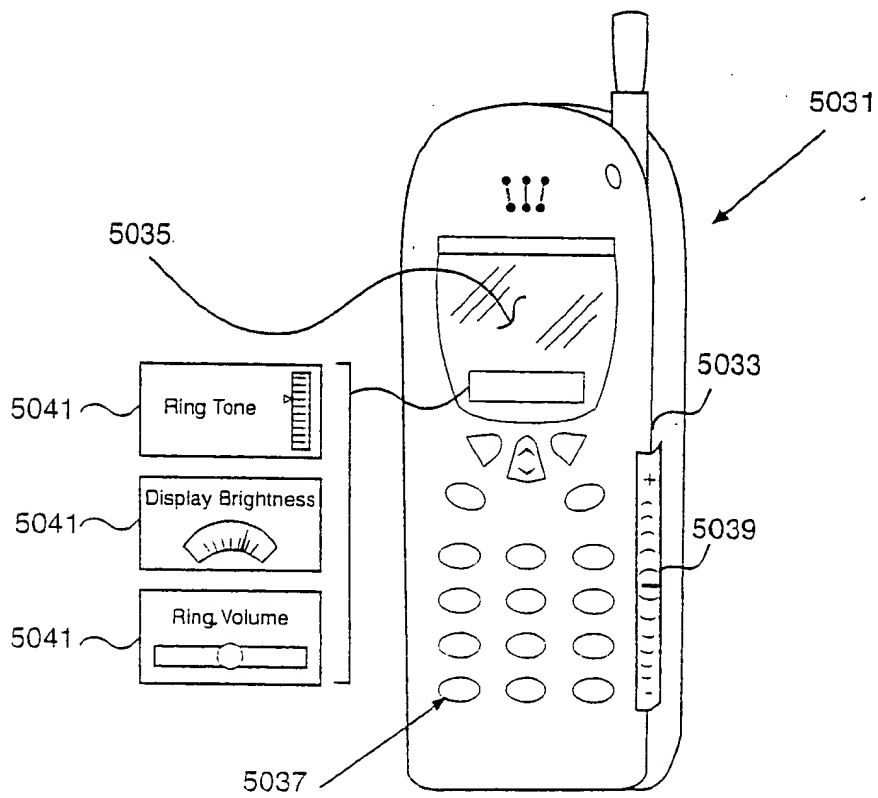


Figure 8B

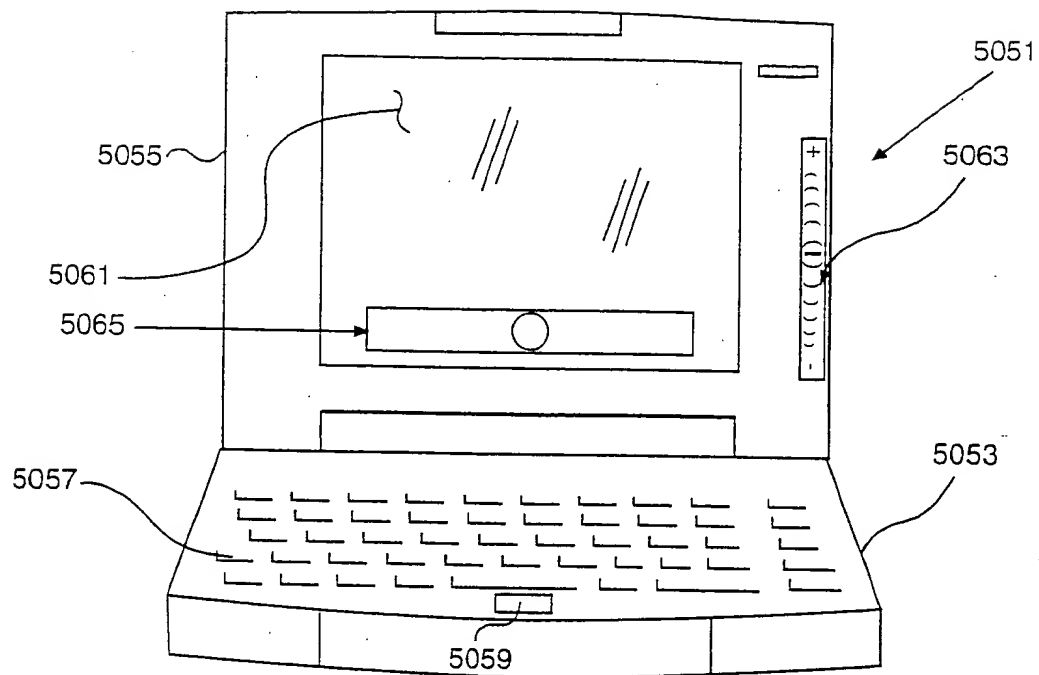


Figure 8C

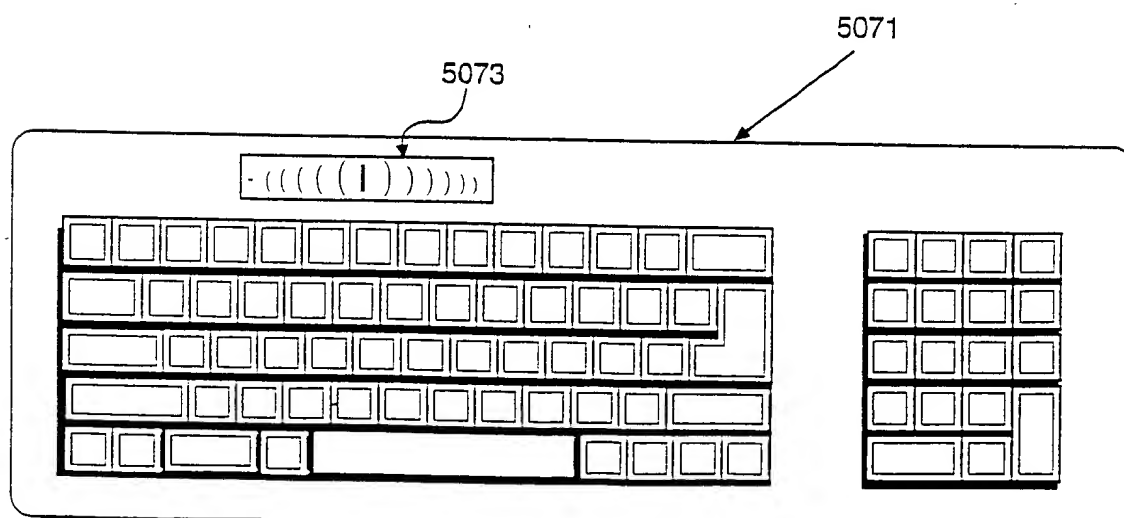


Figure 8D

2025-10-23 14:56

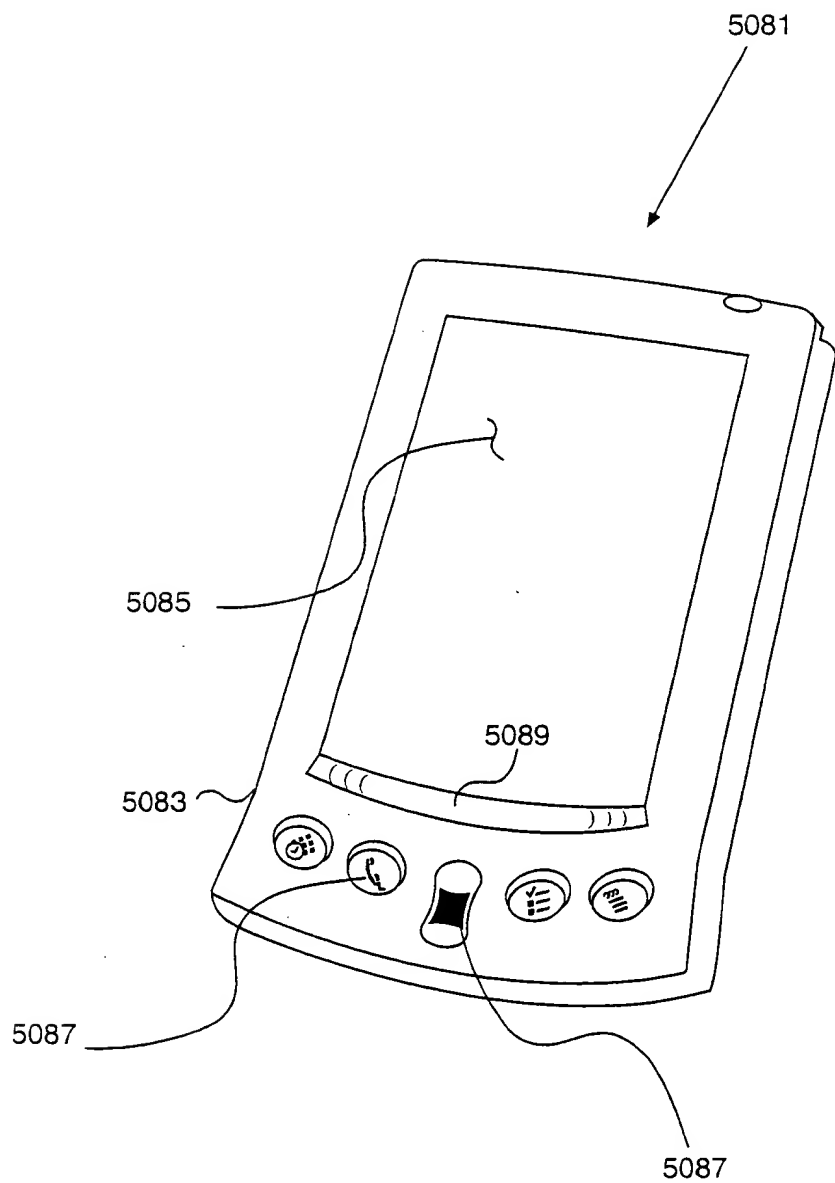


Figure 8E

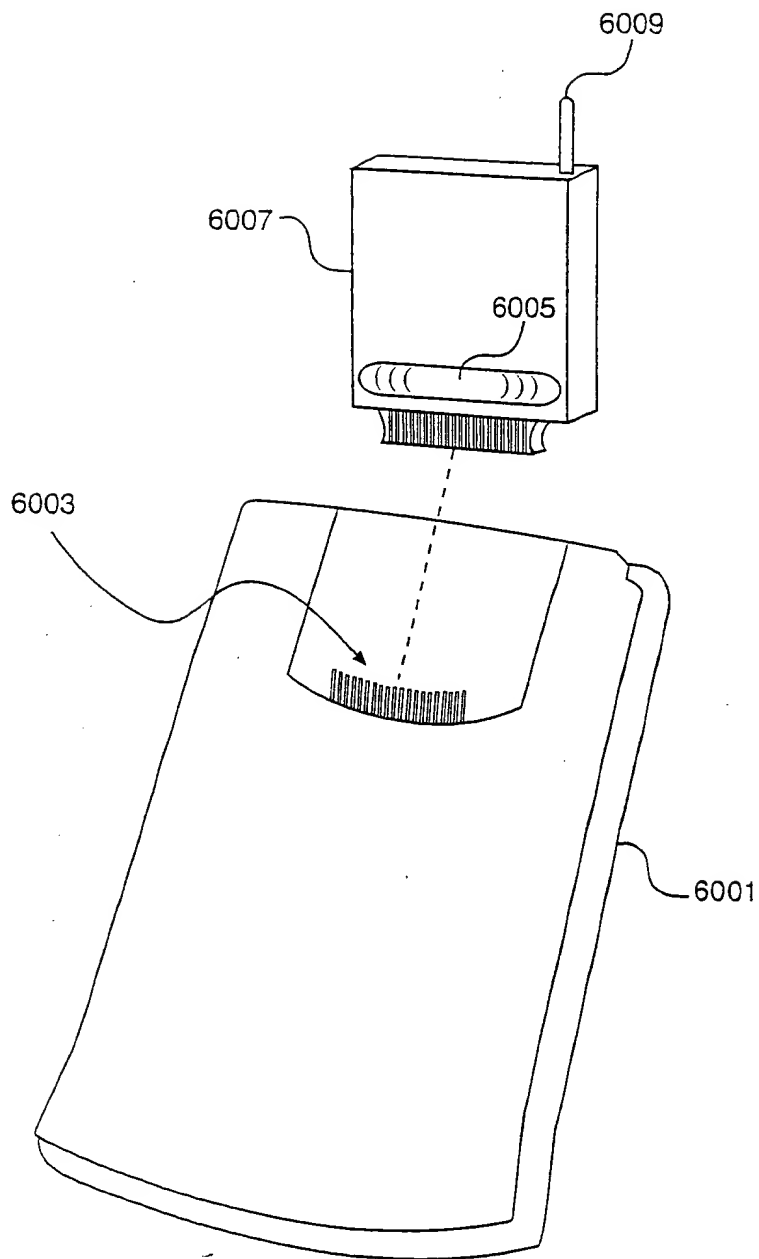


Figure 9

Age * Sex Crosstabulation

Age	Male	Female	Total
12	154	133	287
13	154	161	315
14	155	116	271
15	131	133	264
16	100	98	198
17	104	117	221
18	80	60	140
19	10	9	19
Total	888	827	1715

Fig 10A

Race * Sex Crosstabulation

Race		Male	Female	Total
White	N	783	714	1497
	%w/in race	52.30	47.70	100.00
Black	N	91	94	185
	%w/in race	49.19	50.81	100.00
Oriental	N	4	4	8
	%w/in race	50.00	50.00	100.00
American Indian	N	4		4
	%w/in race	100.00		100.00
Other	N	6	13	19
	%w/in race	31.58	68.42	100.00
Total	N	888	825	1713
	%w/in race	51.84	48.16	100.00

Fig 10B

2000 Census of the United States

Thumb Length

	N	Mean	Std Dev	1st	5th	50th	95th	99th
Total Males	292	6.3	0.7	5.0	5.3	6.3	7.3	8.1
Total Females	285	6.0	0.5	4.8	5.1	5.9	6.8	7.1
Males 12-15	196	6.1	0.6	5.0	5.2	6.1	7.1	7.8
Males 16-19	96	6.7	0.6	5.5	5.9	6.7	7.5	
Females 12-15	198	5.9	0.5	4.7	5.0	5.9	6.8	7.0
Females 16-19	87	6.1	0.5	5.1	5.3	6.2	6.9	

Fig. 10c

Thumb Length: Males

		Percentiles						
Age	N	Mean	Std Dev	1st	5th	50th	95th	99th
12	46	5.7	0.4	4.9	5.0	5.7	6.3	
13	46	6.0	0.5	5.1	5.2	5.9	6.9	
14	54	6.2	0.6	5.1	5.2	6.1	7.3	
15	50	6.6	0.4	5.5	5.9	6.6	7.3	
16	31	6.6	0.4	5.7	5.9	6.6	7.1	
17	38	6.8	0.7	5.5	5.8	6.8	7.9	
18	25	6.8	0.4	6.2	6.2	6.9	7.5	
19	2	7.6	0.8	7.0	7.0	7.6		

Fig. 10D

Thumb Length: Females

		Percentiles						
Age	Valid N	Mean	Std Dev	1st	5th	50th	95th	99th
12	48	5.7	0.5	4.7	4.9	5.8	6.5	
13	61	5.9	0.5	4.6	4.9	5.8	6.6	
14	44	5.9	0.5	4.8	5.0	5.9	6.9	
15	45	6.1	0.4	5.4	5.4	6.0	6.9	
16	25	6.2	0.5	5.1	5.2	6.3	7.1	
17	42	6.0	0.5	5.1	5.2	6.0	7.0	
18	16	6.2	0.3	5.7	5.7	6.2		
19	4	6.1	0.3	5.7	5.7	6.1		

Fig. 10E

Fig 10F

Correlations: Total

		THUMB LENGTH	HAND LENGTH
THUMB LENGTH	Pearson Correlation	1	0.770
	Sig. (2-tailed)**	.	0.000
	N	577	576
HAND LENGTH	Pearson Correlation	0.770	1
	Sig. (2-tailed)**	0.000	.
	N	576	1707
** Correlation is significant at the 0.01 level (2-tailed)**.			

Fig 10G

Correlations: Male

		THUMB LENGTH	HAND LENGTH
THUMB LENGTH	Pearson Correlation	1	0.790
	Sig. (2-tailed)**	.	0.000
	N	292	291
HAND LENGTH	Pearson Correlation	0.790	1
	Sig. (2-tailed)**	0.000	.
	N	291	882
** Correlation is significant at the 0.01 level (2-tailed)**.			

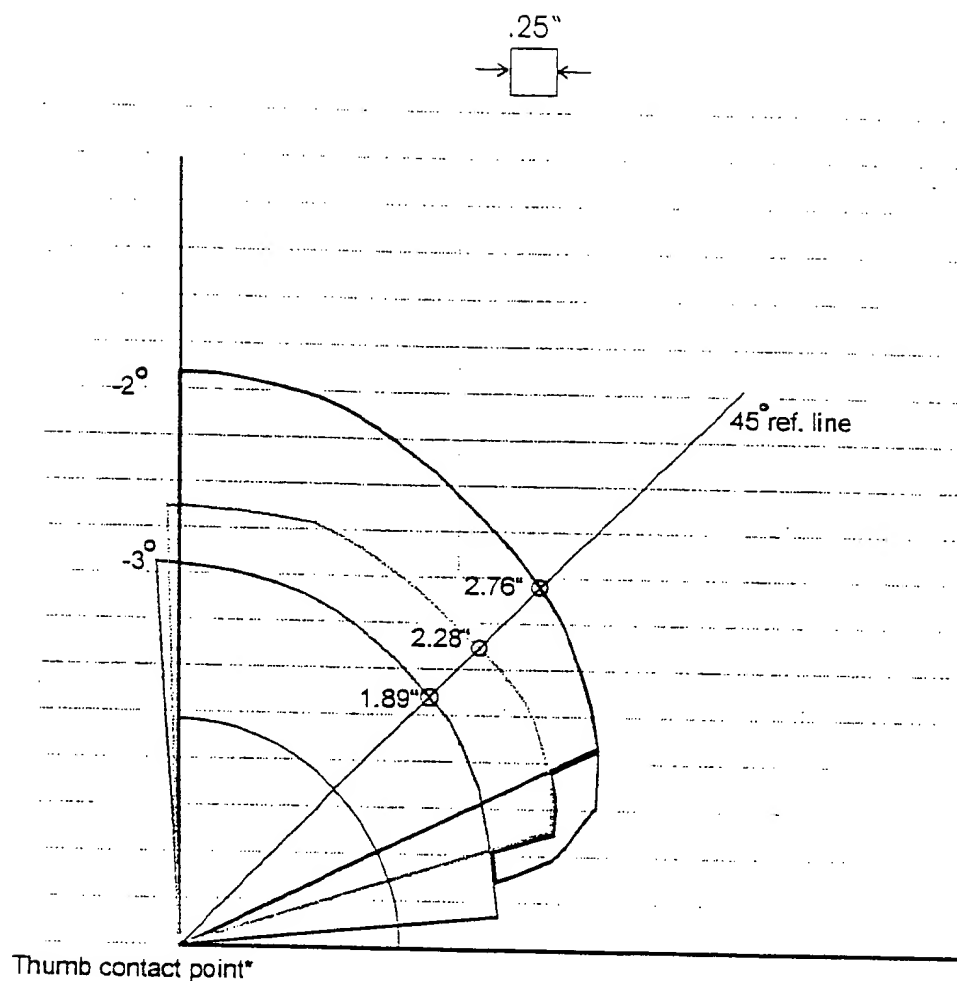
Correlations: Female

		THUMB LENGTH	HAND LENGTH
THUMB LENGTH	Pearson Correlation	1	0.657
	Sig. (2-tailed)**	.	0.000
	N	285	285
HAND LENGTH	Pearson Correlation	0.657	1
	Sig. (2-tailed)**	0.000	.
	N	285	825
** Correlation is significant at the 0.01 level (2-tailed)**.			

Fig 10H

2025 RELEASE UNDER E.O. 14176

2025-09-23 09:00:00



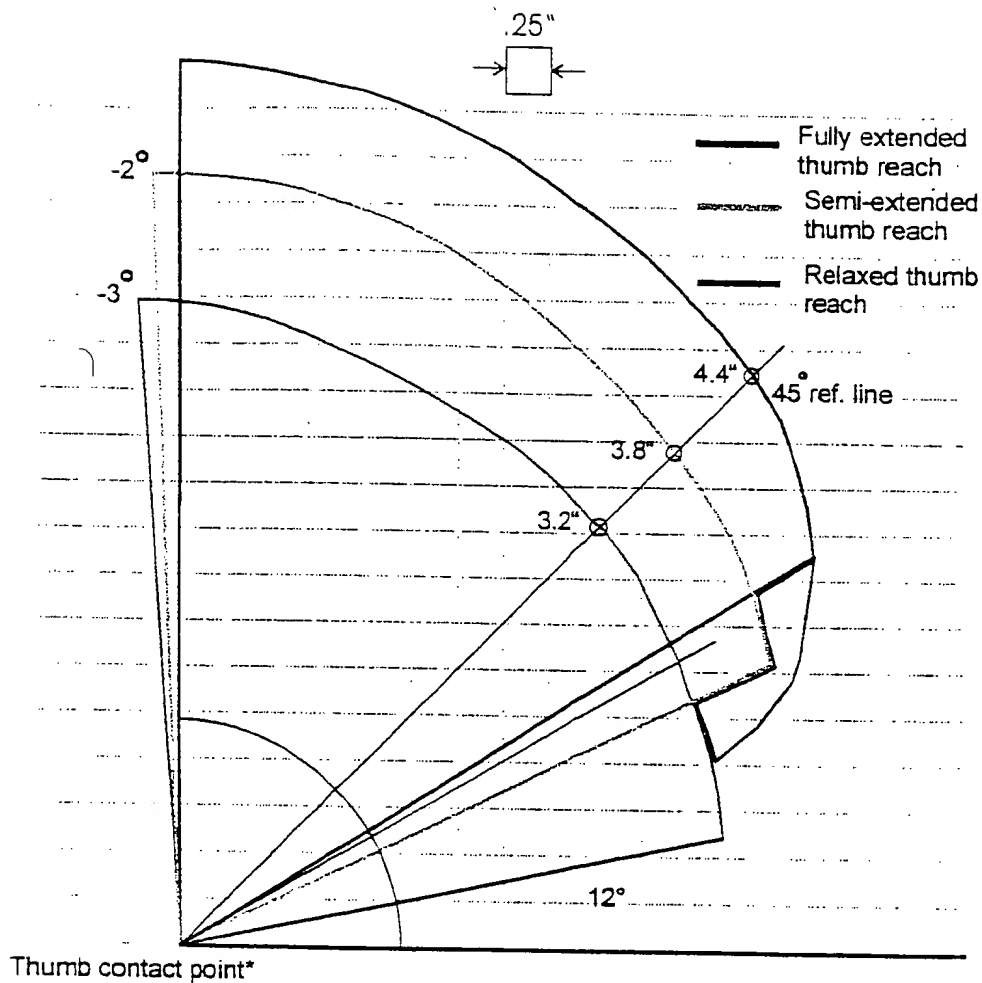
1st Percentile Left Thumb Sweeps, Females Age 12-19
(Uniform object thickness 0.75", corner radius 0.75")

* Located vertically over point of thumb base contact with corner,
at midpoint of lower corner radius on device

Fig 10J

C24

205470 234466



95th Percentile Left Thumb Sweeps, Male Age 12-19
 (Uniform object thickness 0.75", **corner radius 1.5"**)
 Note: each data point represents thumb tip at centerline of thumb

* Located vertically over point of thumb base contact with corner, at midpoint of lower corner radius on device

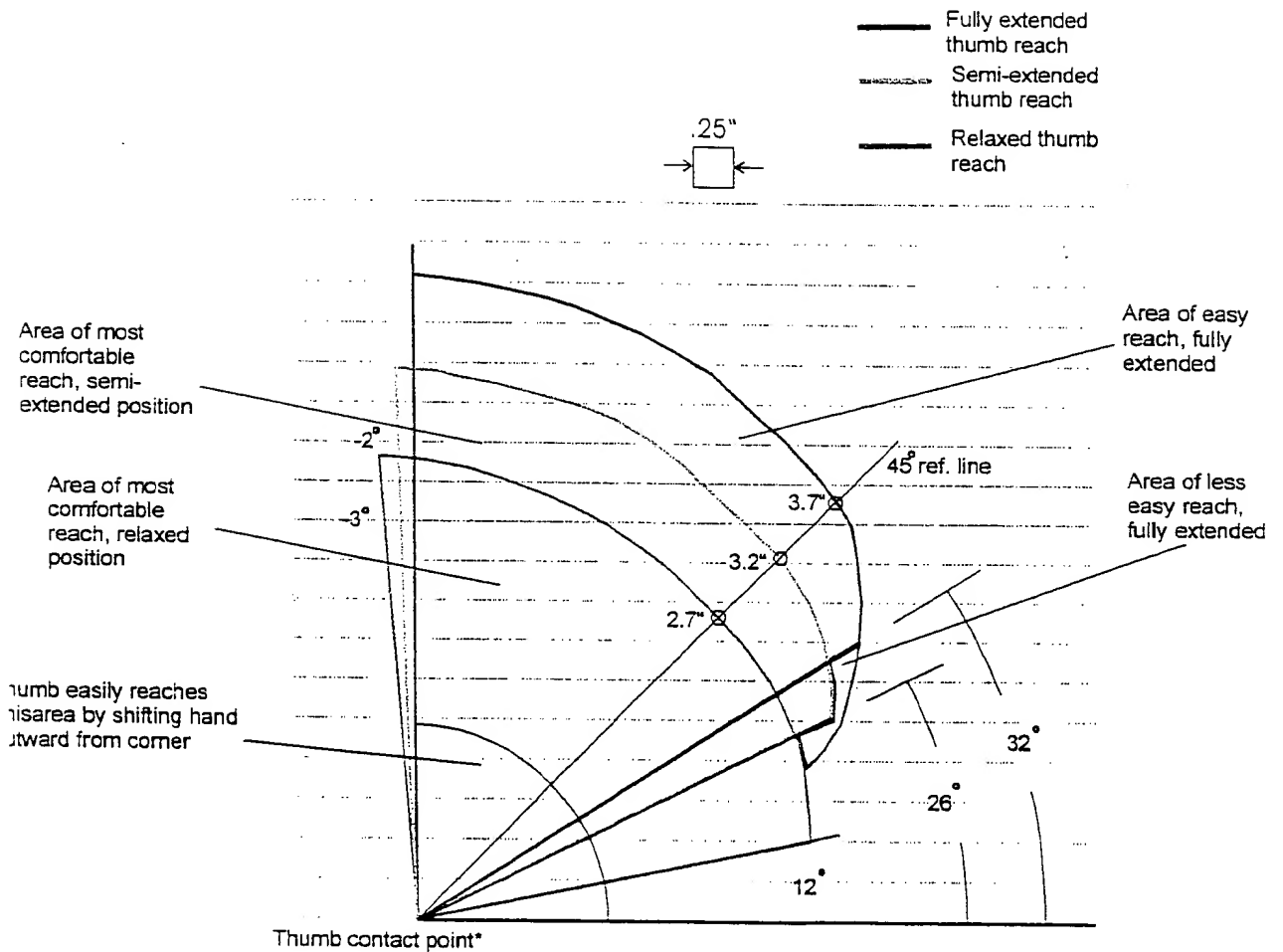
Fig 10K

C25

Figure 1 is a schematic diagram of a hand model, specifically focusing on the thumb contact point. The diagram shows a series of concentric arcs representing the hand's profile. A vertical line on the left represents the thumb's position. A horizontal line at the top is labeled "0.25 inch". A 45° reference line is drawn from the origin. Several angles are marked: 2°, 3°, 4.19°, 3.47°, and 2.87°. The contact point is labeled "Thumb contact point*".

* Located vertically over point of thumb base contact with corner, at midpoint of lower corner radius on device

C26



50th Percentile Left Thumb Sweeps, M+F Age 12-19
(Uniform object thickness 0.75", corner radius 1.5")

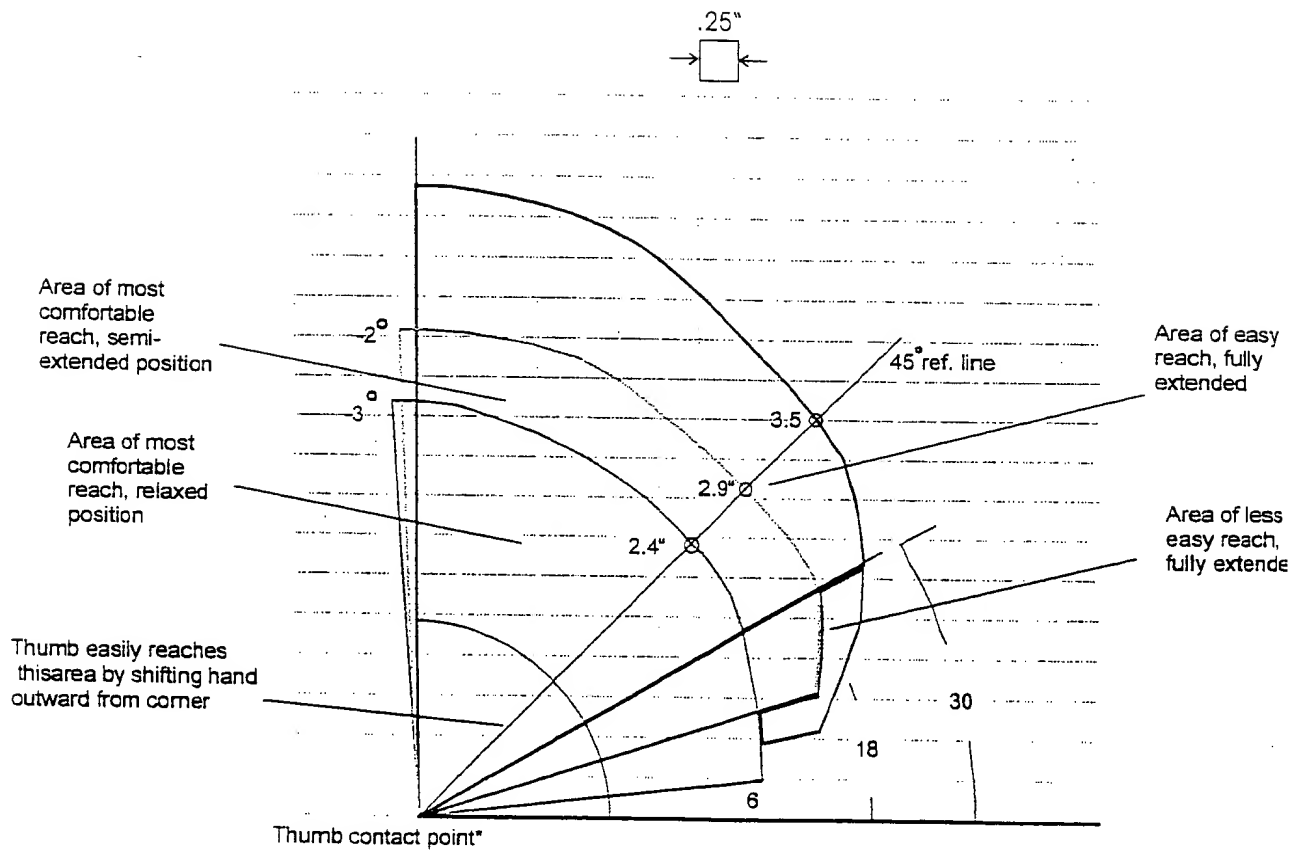
Note: Each data point represents thumb tip at centerline of thumb

* Located vertically over point of thumb base contact with corner,
at midpoint of lower corner radius on device

Fig. 10M

C27

2025-10-27 10:00:00



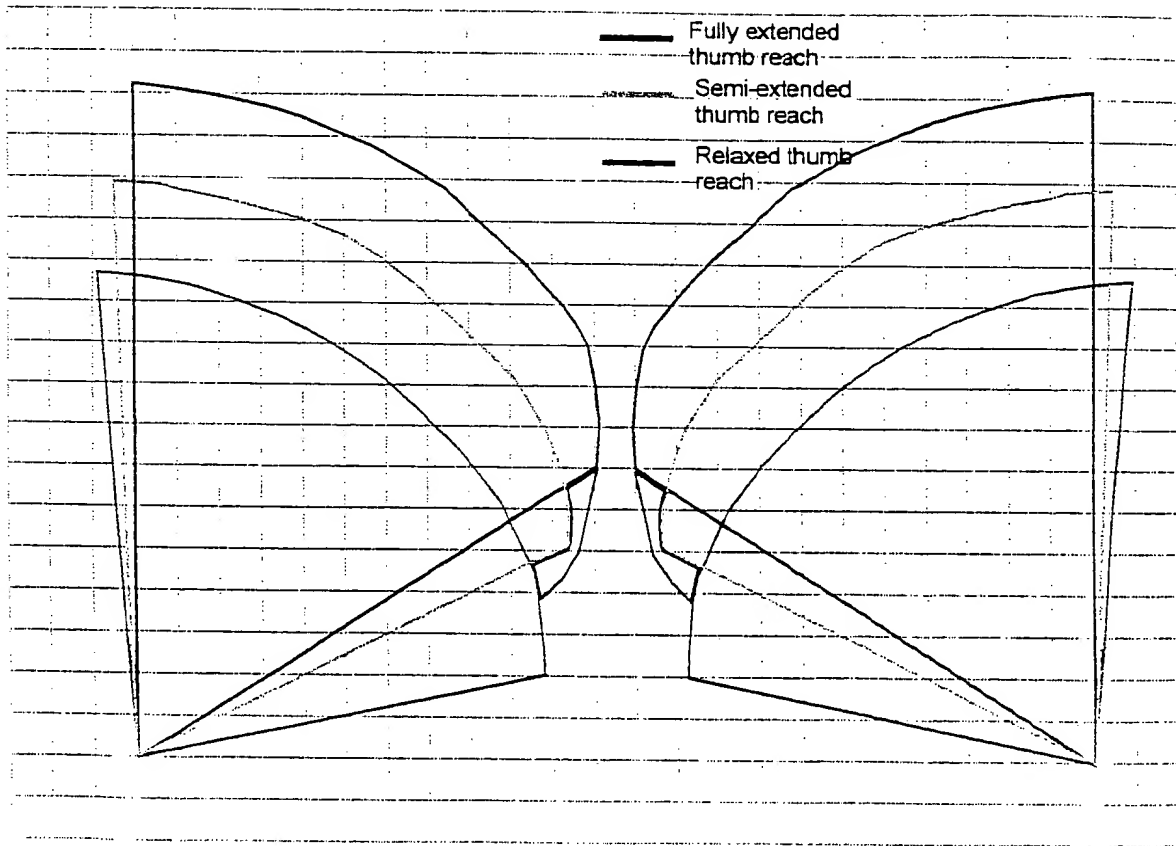
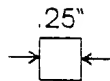
50th Percentile Left Thumb Sweeps, M+F Age 12-19
(Uniform object thickness 0.75", corner radius 0.75")

* Located vertically over point of thumb base contact with corner, at midpoint of lower corner radius on device

Fig 10N

C 28

C29



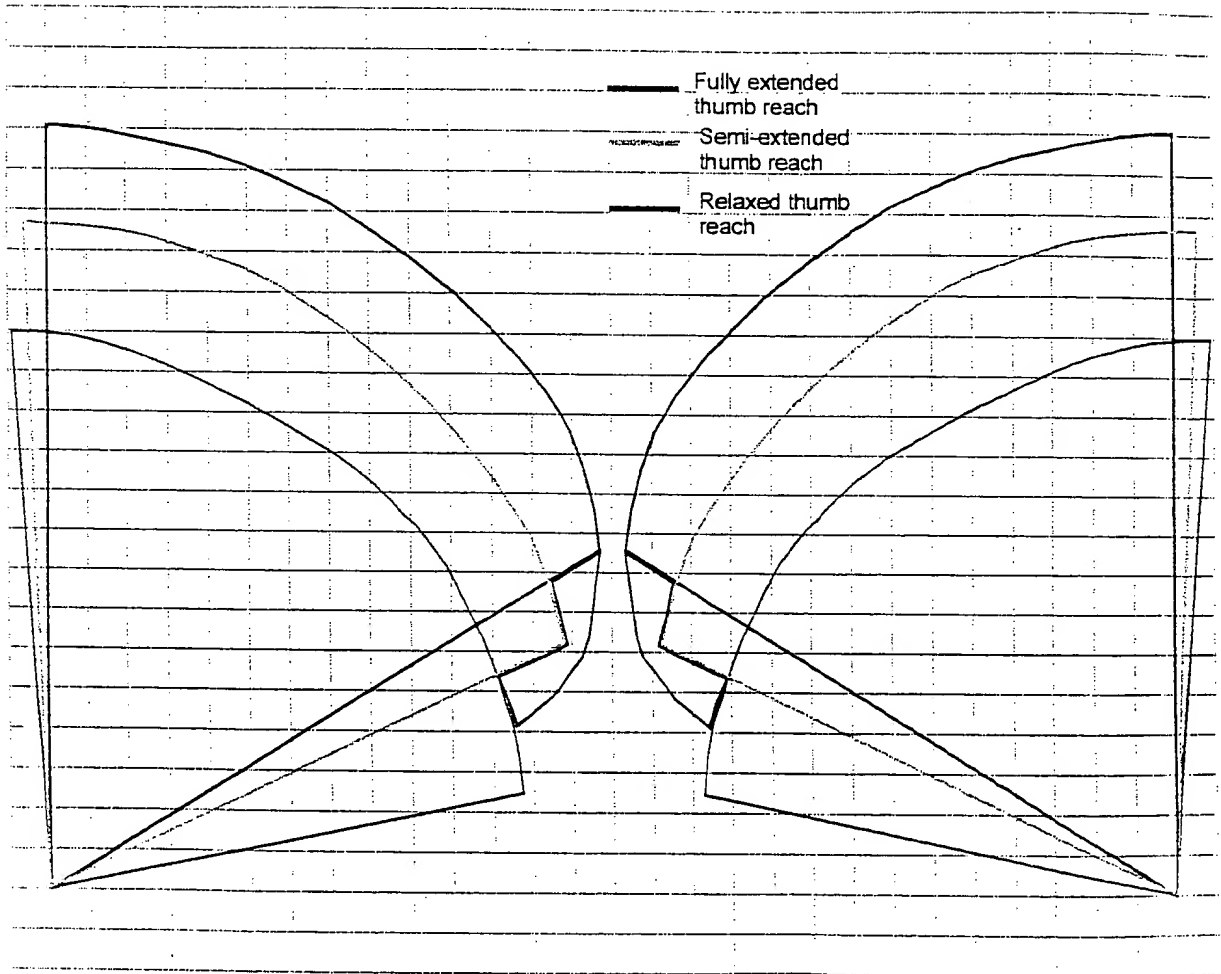
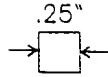
50th Percentile Combined Thumb Sweeps, Male+Females Age 12-19
(Uniform object thickness 0.75", corner radius 1.5")

Notes: Each data point represents thumb tip at centerline of thumb
Left and right thumb envelopes are arbitrarily placed relative to each other
to permit cutting or measurements without overlapped reach lines

* Located vertically over point of thumb base contact with corner,
at midpoint of lower corner radius on device

Fig. 10A

C30



95th Percentile Combined Thumb Sweeps, Males Age 12-19
 (Uniform object thickness 0.75", corner radius 1.5")

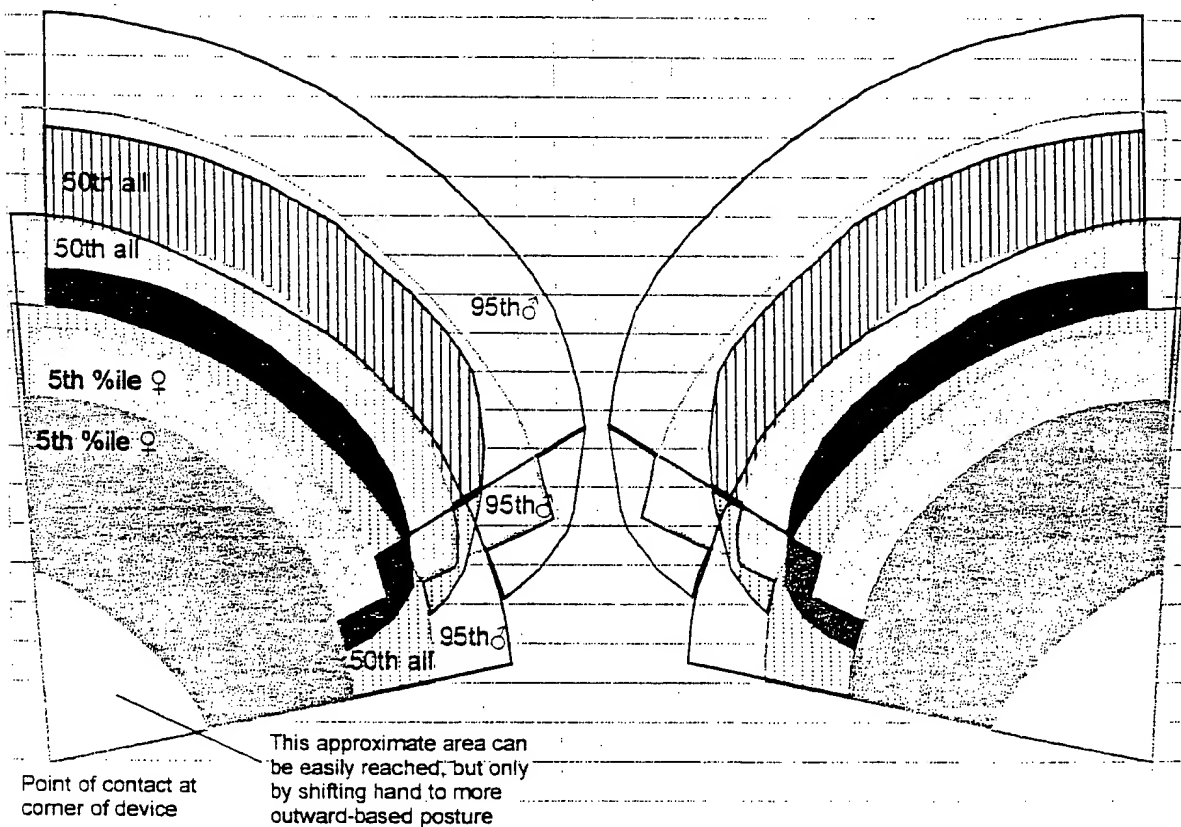
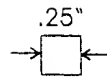
Notes: Each data point represents thumb tip at centerline of thumb
 Left and right thumb envelopes are arbitrarily placed relative to each other
 to permit cutting or measurements without overlapped reach lines

* Located vertically over point of thumb base contact with corner,
 at midpoint of lower corner radius on device

Fig 10Q

C31

- Fully extended thumb reach
- Semi-extended thumb reach
- Relaxed thumb reach
- Area reached with some difficulty while fully extended



Combined Thumb Sweeps, 1st Percentile Females Through 95th Percentile Males Age 12-19

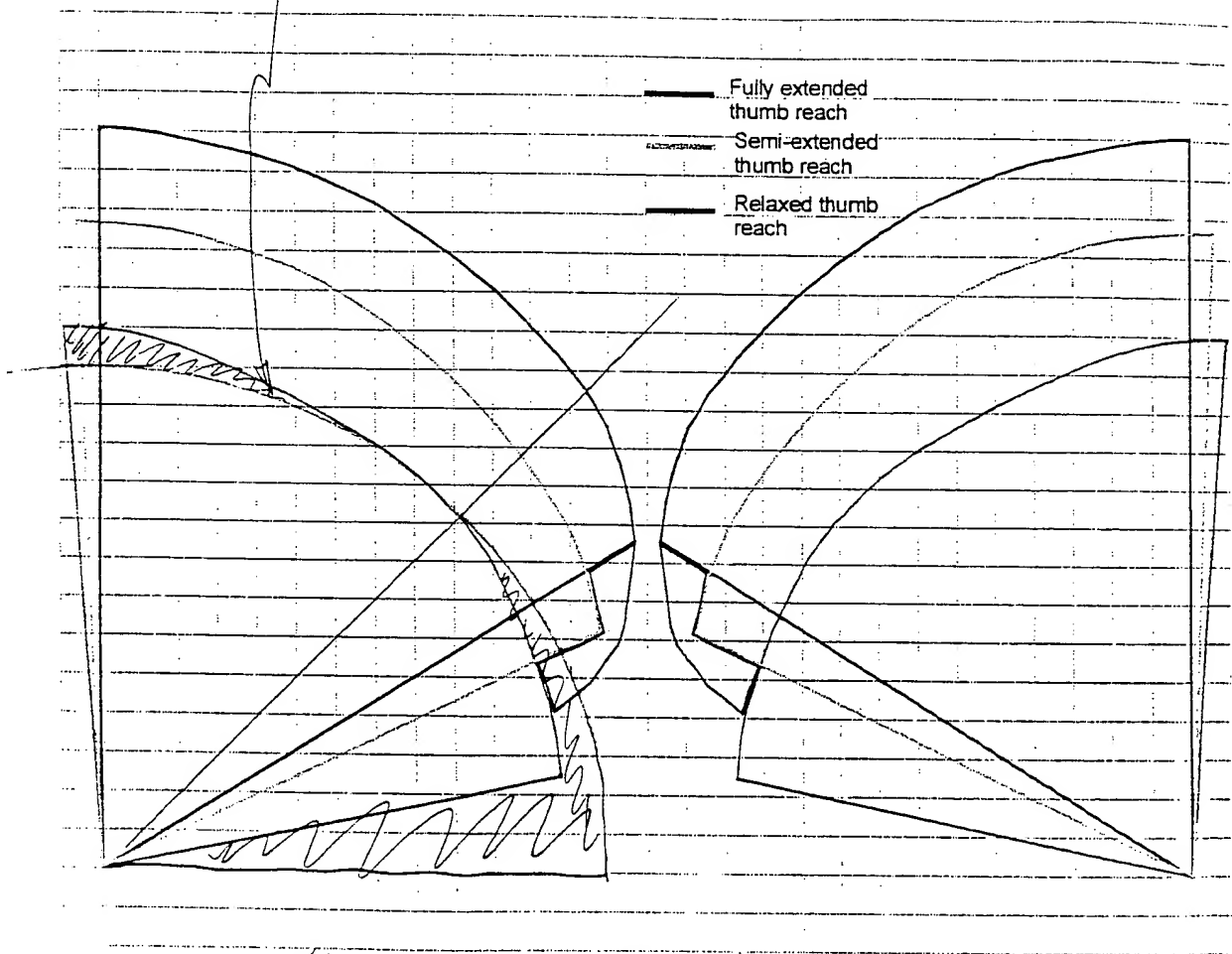
(Uniform object thickness 0.75", corner radius 1.5")

Notes: Each data point represents thumb tip at centerline of thumb
Left and right thumb envelopes are arbitrarily placed relative to each other to permit cutting or measurements without overlapped reach lines

Located vertically over point of thumb base contact with corner, at midpoint of lower corner radius on device

Fig 10R

C32



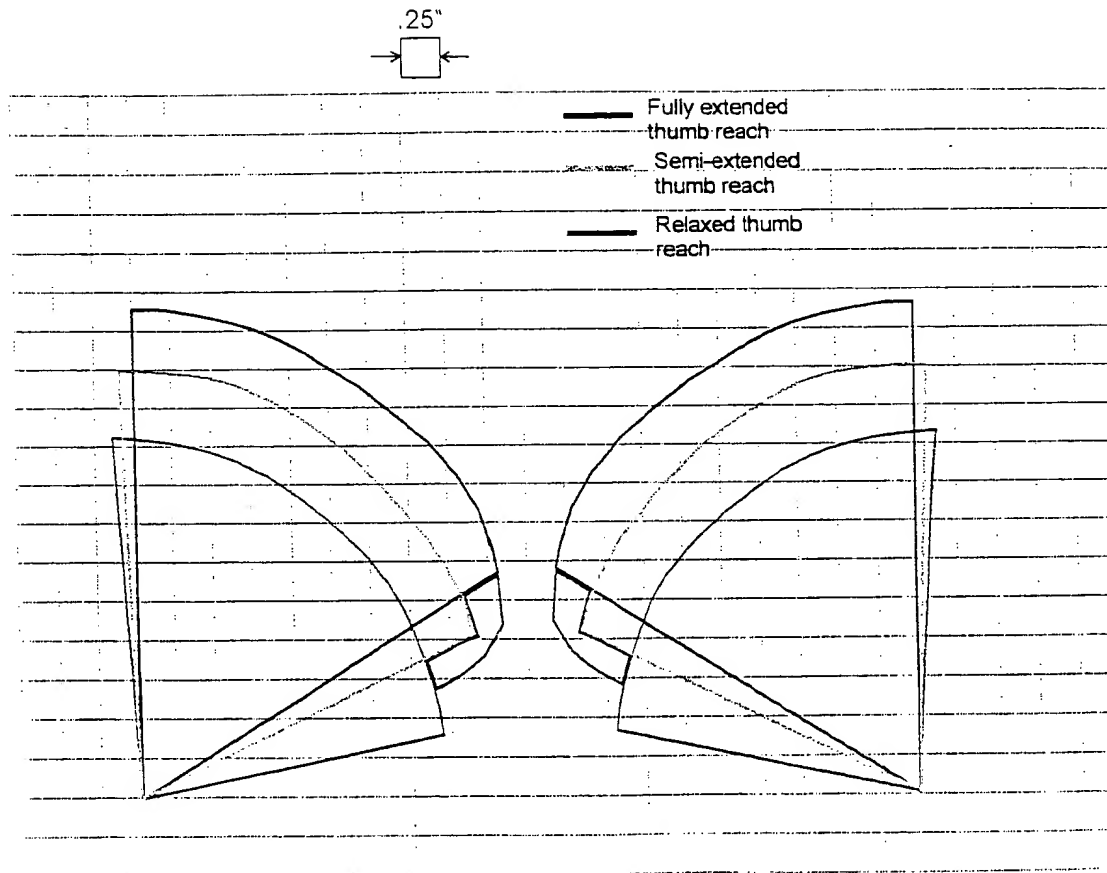
1st Percentile Combined Thumb Sweeps, ^{males} Females Age 12-19
(Uniform object thickness 0.75", **corner radius 1.5"**)

Note: each data point represents thumb tip at centerline of thumb

* Located vertically over point of thumb base contact with corner, at midpoint of lower corner radius on device

Fig 10.5

2025 RELEASE UNDER E.O. 14176



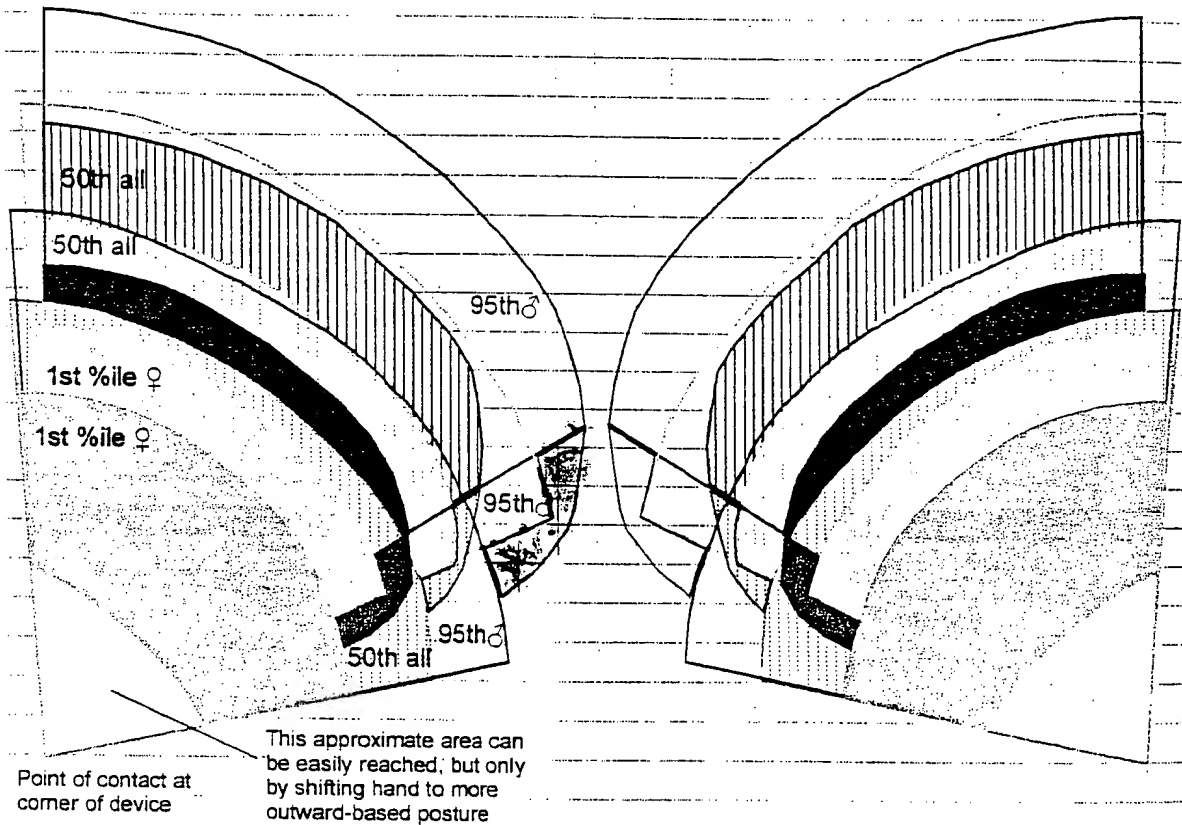
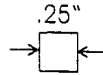
1st Percentile Combined Thumb Sweeps, Females Age 12-19
(Uniform object thickness 0.75", **corner radius 1.5"**)

Notes: Each data point represents thumb tip at centerline of thumb
Left and right thumb envelopes are arbitrarily placed relative to each other
to permit cutting or measurements without overlapped reach lines

Fig. 10 T

C34

- Fully extended thumb reach
- Semi-extended thumb reach
- Relaxed thumb reach
- Area reached with some difficulty while fully extended



Combined Thumb Sweeps, 1st Percentile Females Through 95th Percentile Males Age 12-19

(Uniform object thickness 0.75", corner radius 1.5")

Notes: Each data point represents thumb tip at centerline of thumb
Left and right thumb envelopes are arbitrarily placed relative to each other to permit cutting or measurements without overlapped reach lines

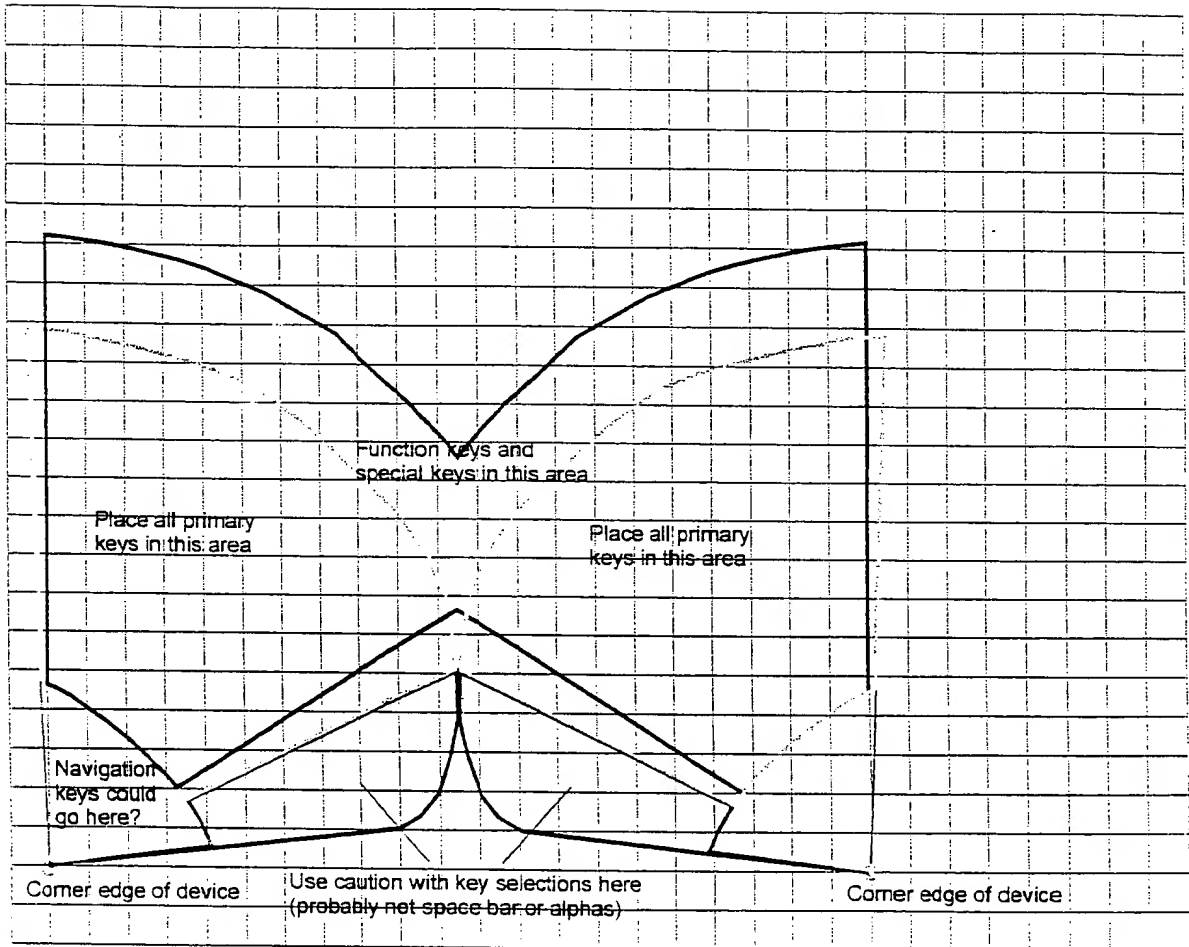
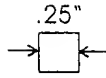
Fig 10.11

Located vertically over point of thumb base contact with corner, at midpoint of lower corner radius on device

C35

Fig 10V

C36



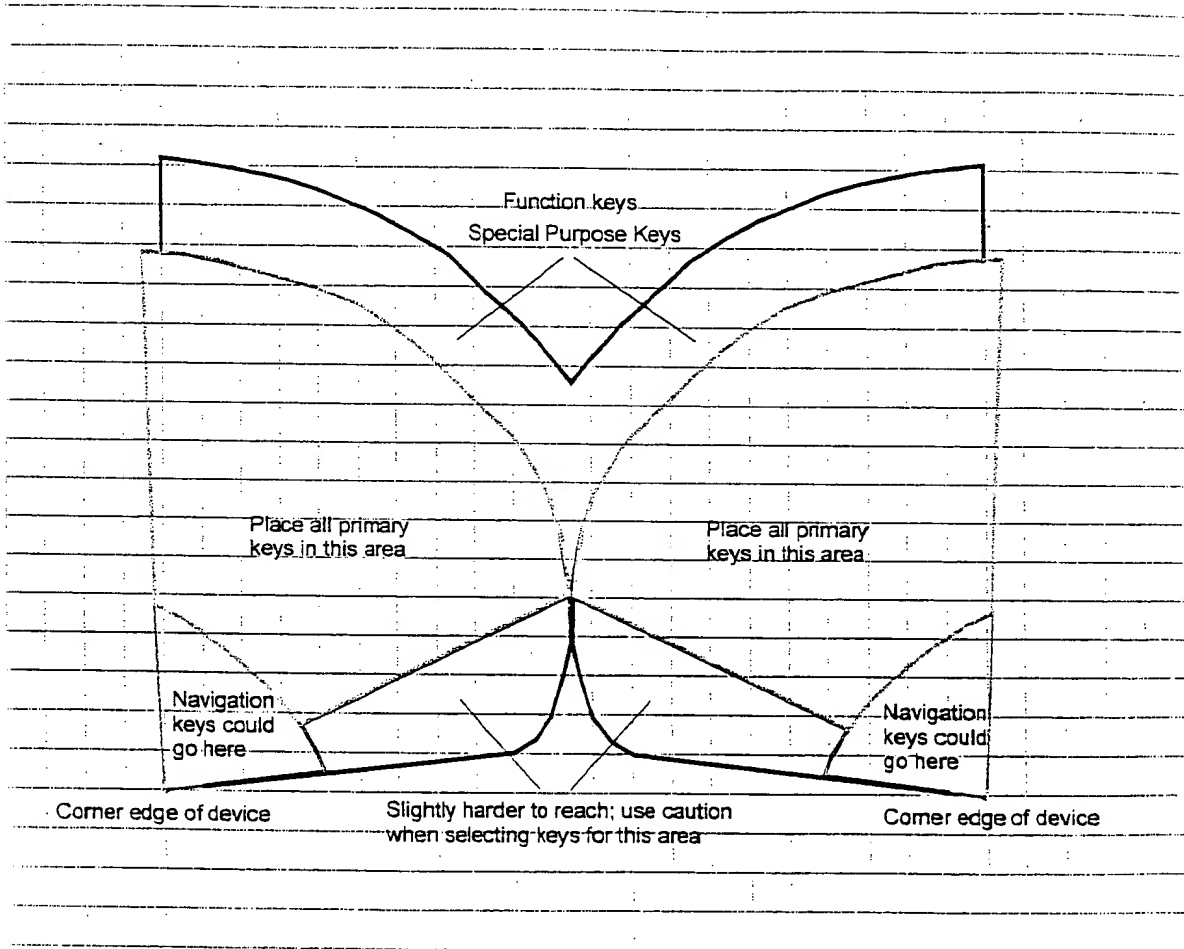
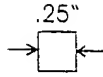
Key Placement Guidelines

(Uniform object thickness 0.75", corner radius 1.5")

Using 50th percentile semi-extended reach for primary keying area

Fig 10W

C37



Key Placement Guidelines

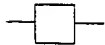
Device thickness 0.75"(uniform), corner radius 1.5" (plan view), corner radius approx. 1.0" (side view)

Notes:

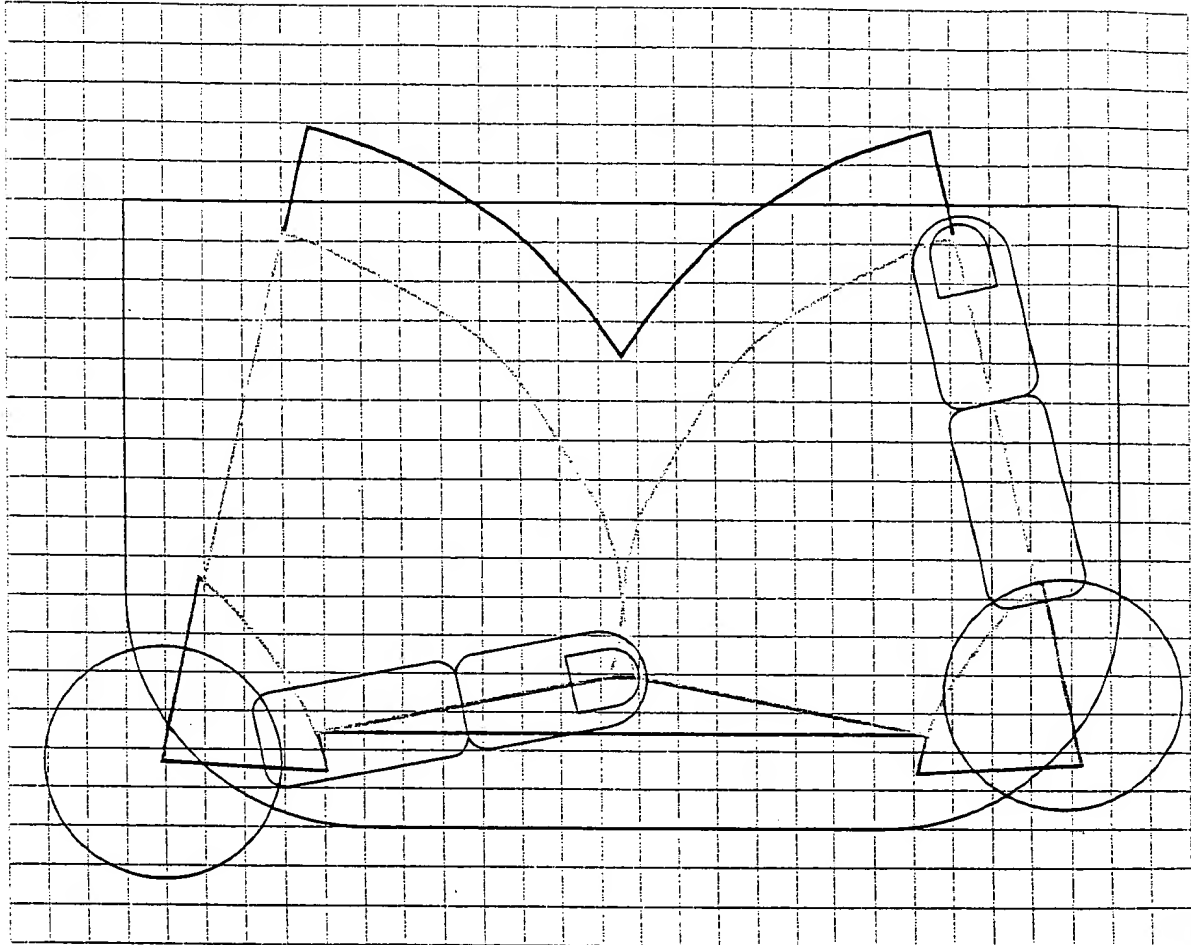
For device thickness of 0.75 in., keying area width is approx. 5.5 in.
 Reach areas are valid for placement of thumbs at corner or along sides
 Smaller corner radii decrease reach areas but permit easier reach into blue areas
 Device thicknesses greater than 0.75 in. quickly decrease size of reach areas
 Reach plots generally indicate a device width of approx. 6.0 in.

Fig 10X

C38

.25"


Back from Brook



Combined male and female

1. Used reach envelope of 50% woman with relaxed grip (not pick or extended reach).
2. Drew geometry to represent the approx dims of 50% woman. Circle represents the palm at the base and crotch of the thumb.
3. Rotated the reach envelope approx 15° to more closely resemble the hand posture of holding a game controller.

Fig 10Y

C 39

Automated Wrapping Process

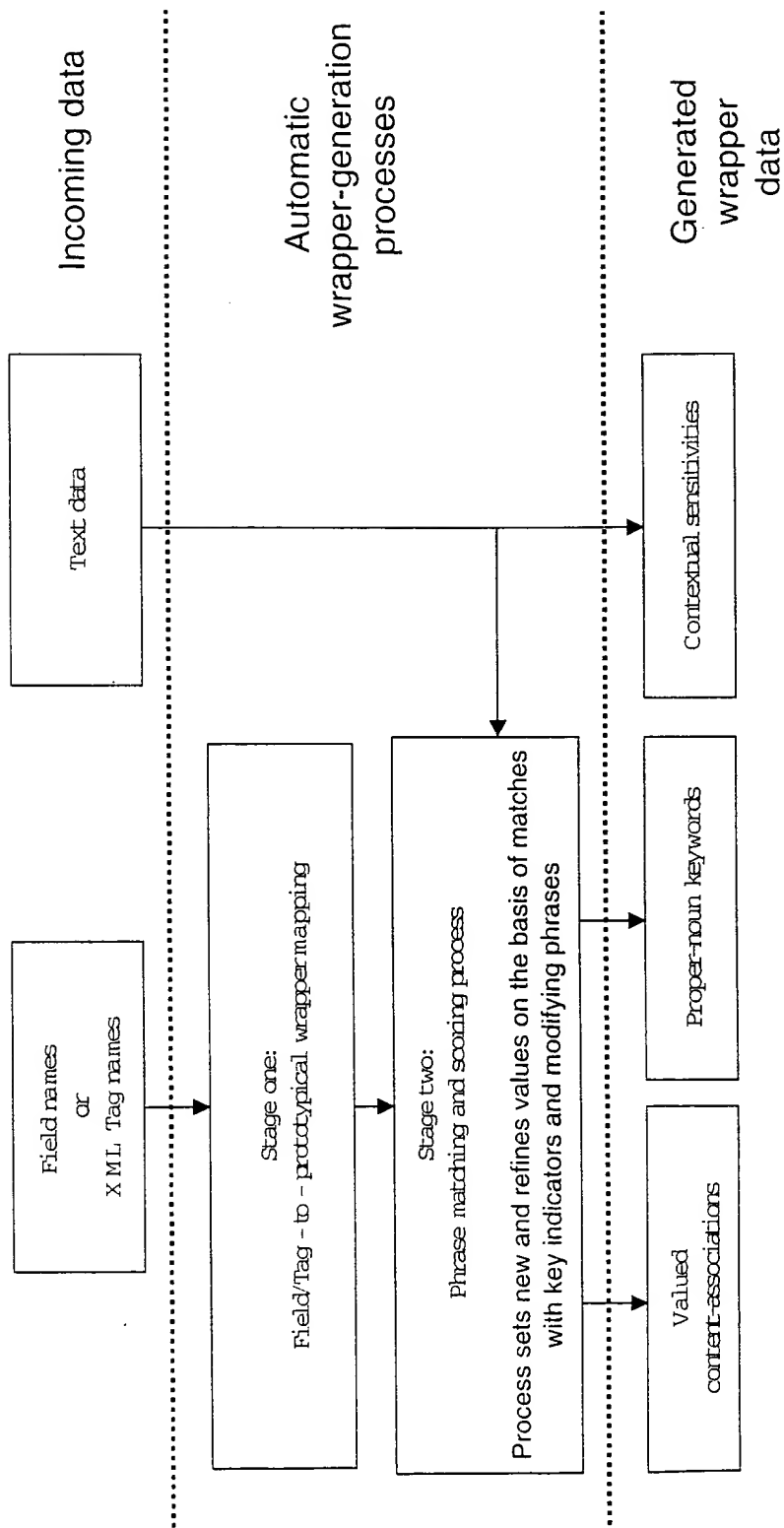


Figure 11

20250703 23444650

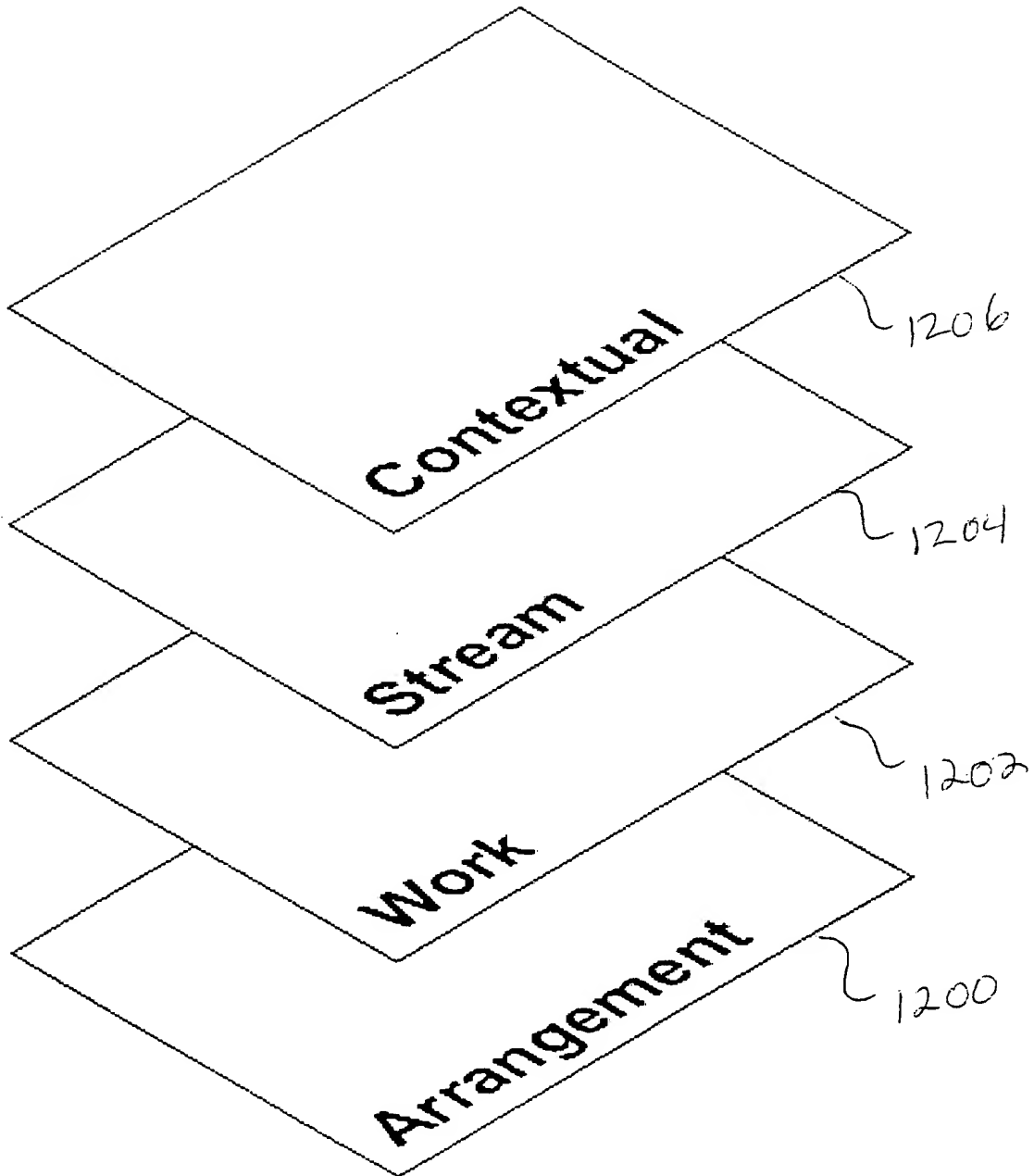


Fig. 12

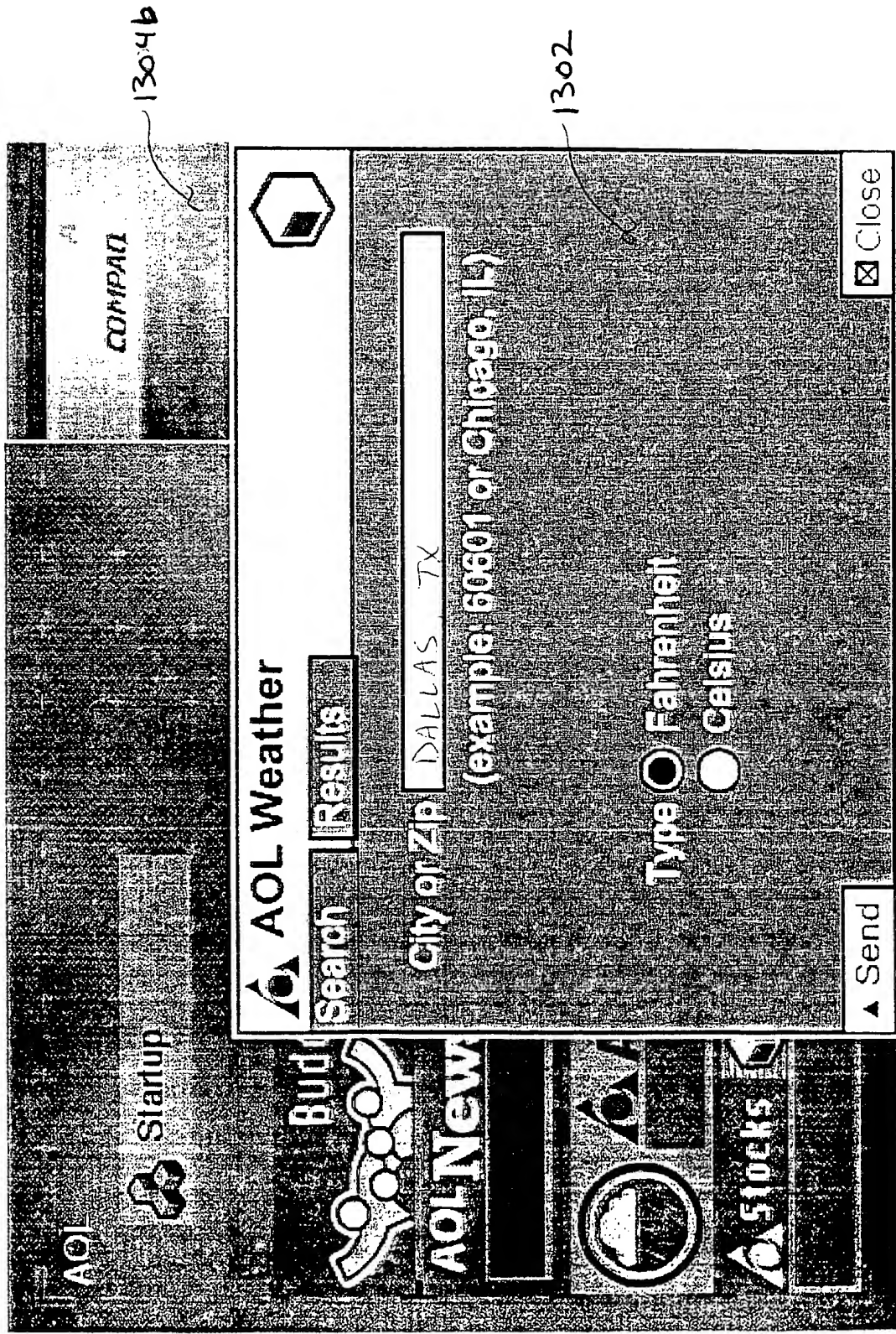


Fig 13b

20570 2044660

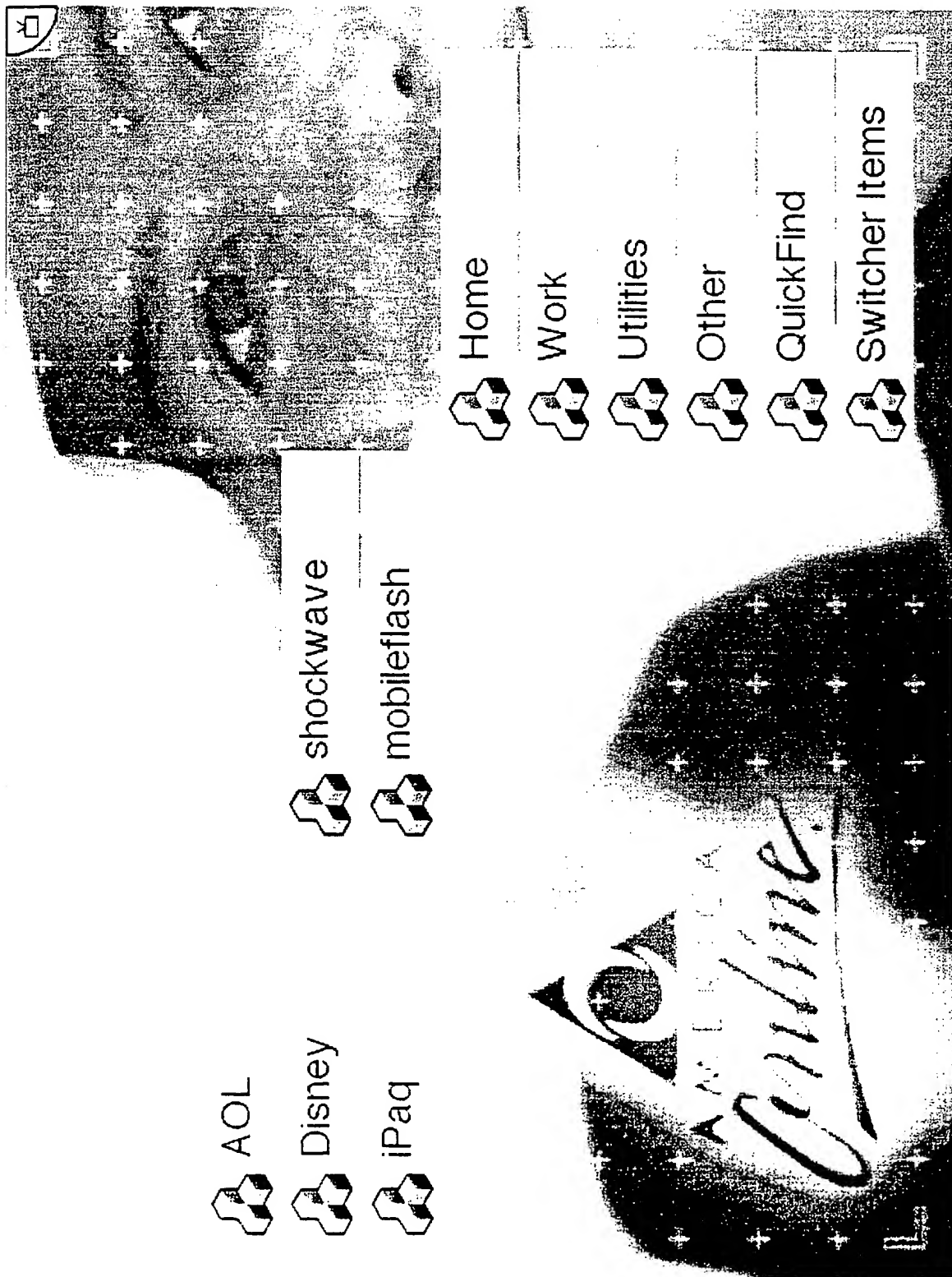


Fig. 14A

20570" 2844650

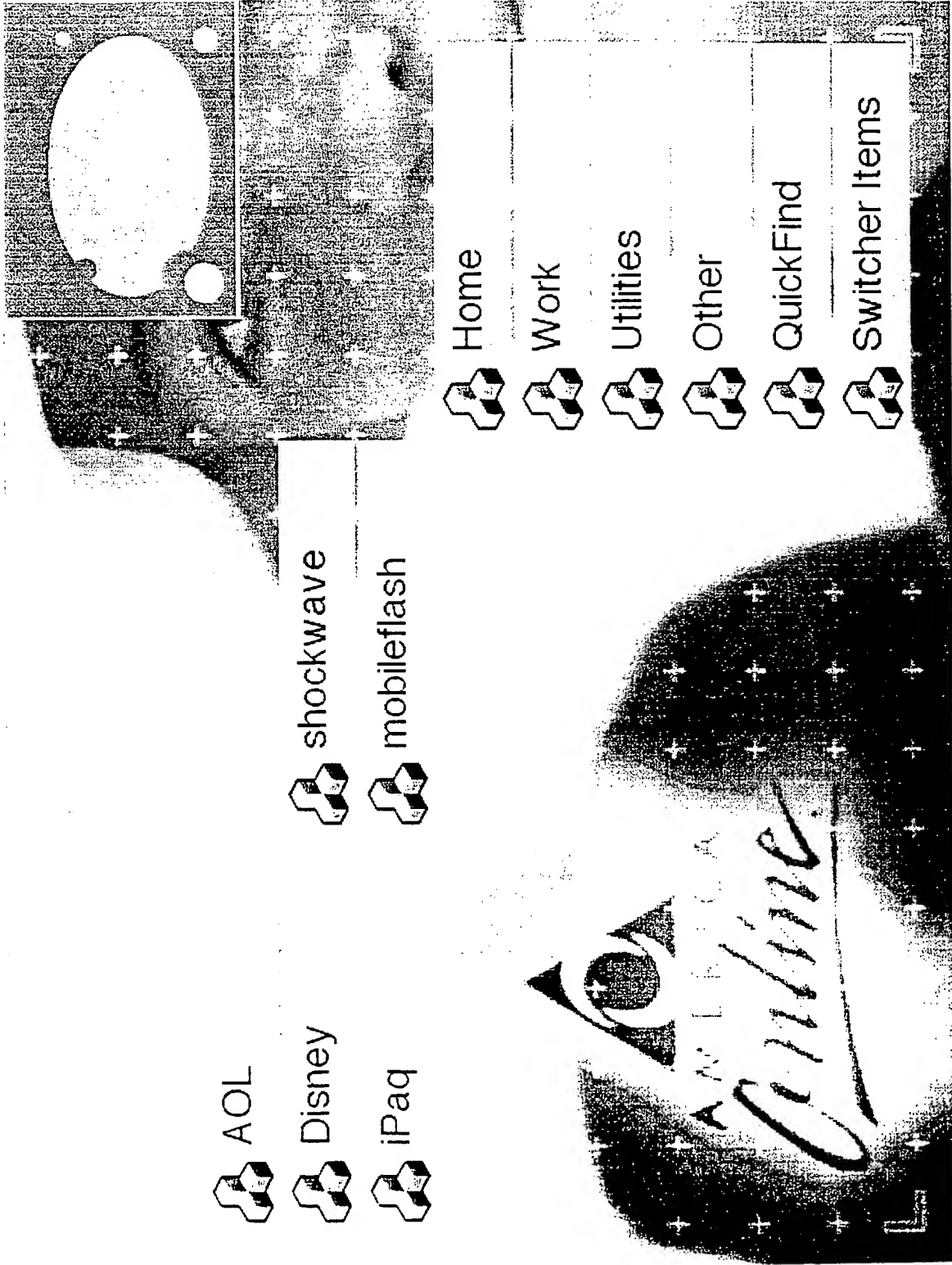


Fig 14B

205710 2844650

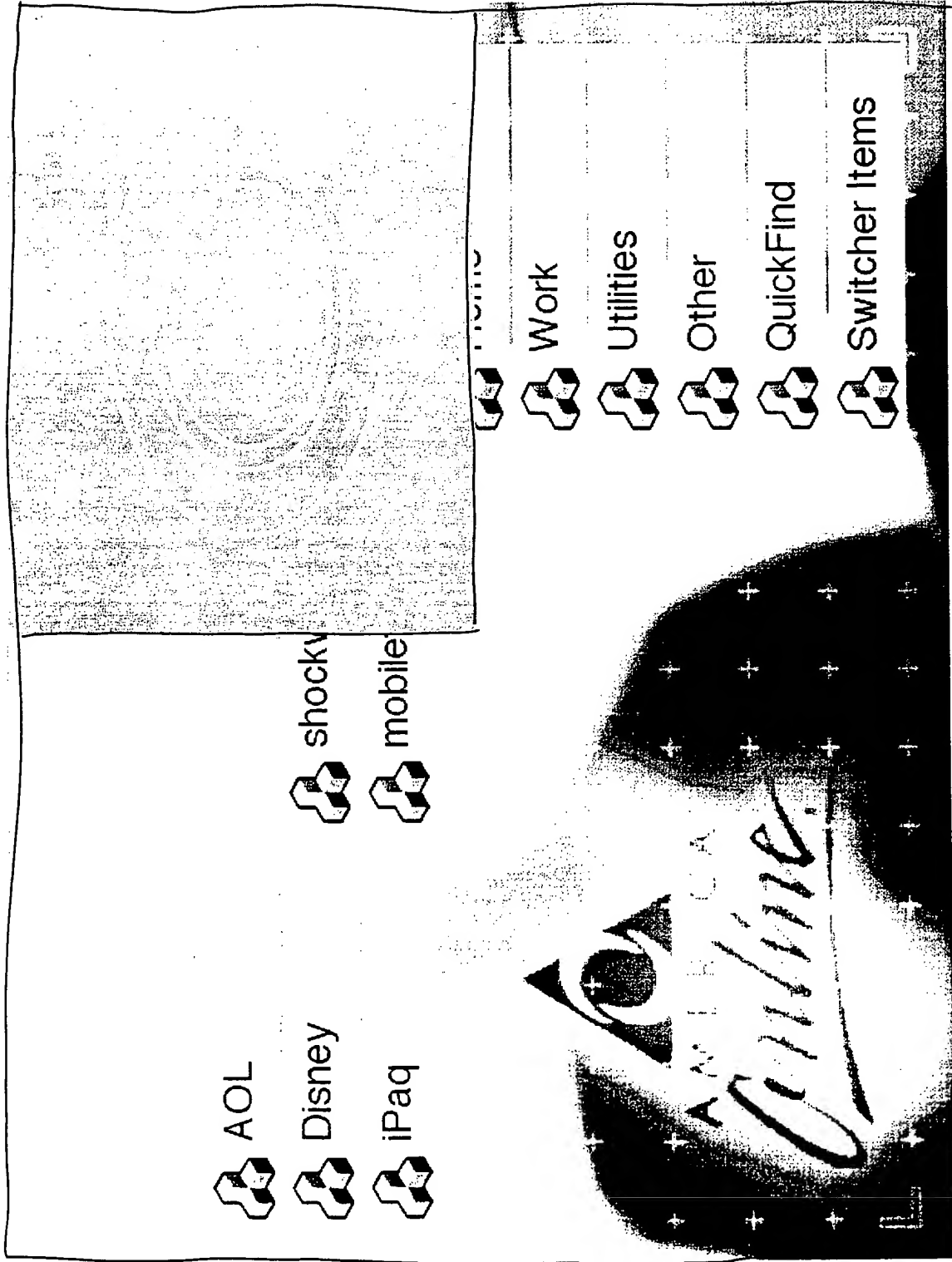


Fig 14C

Fig 14D

634760 " 63476503

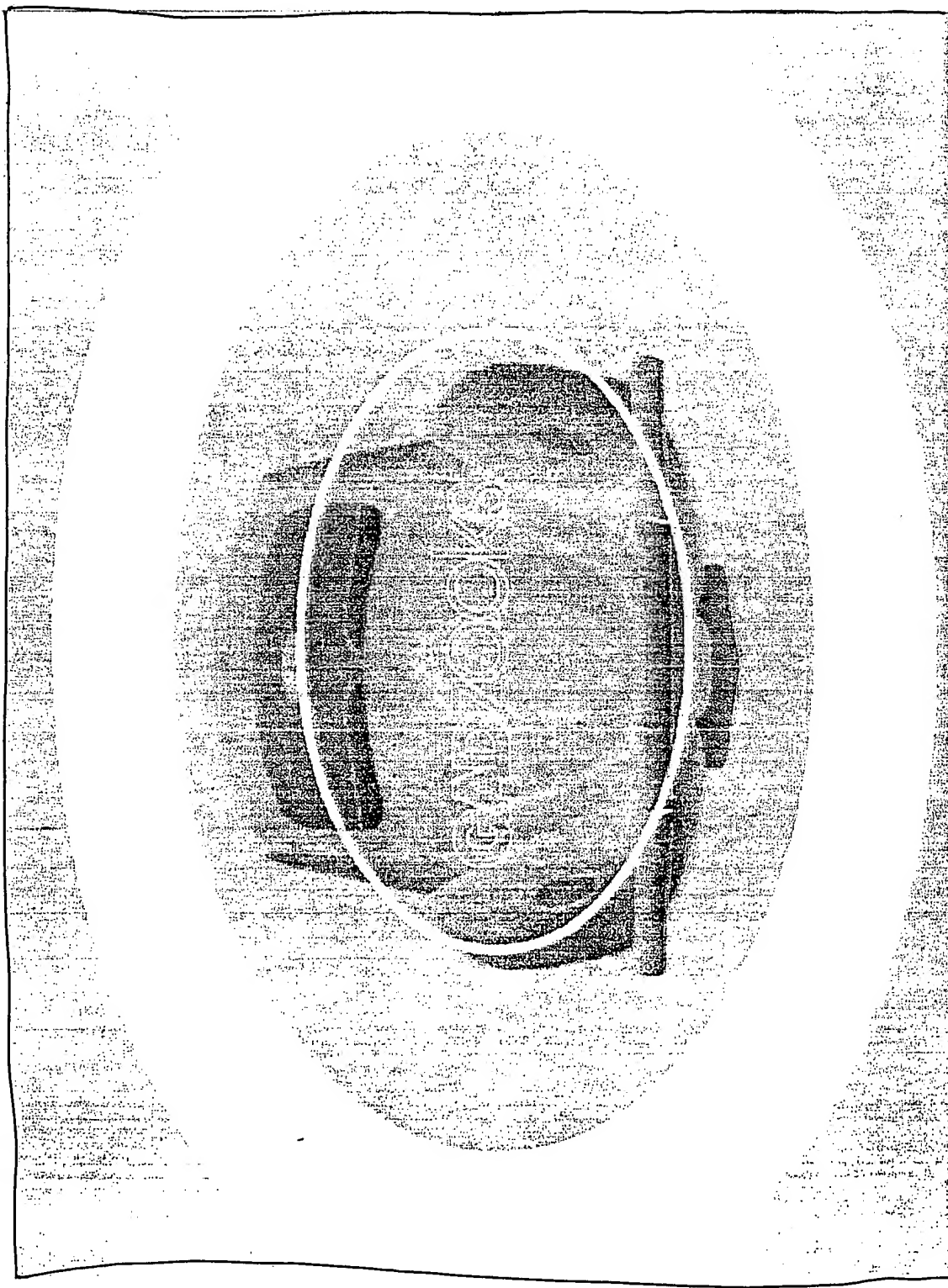
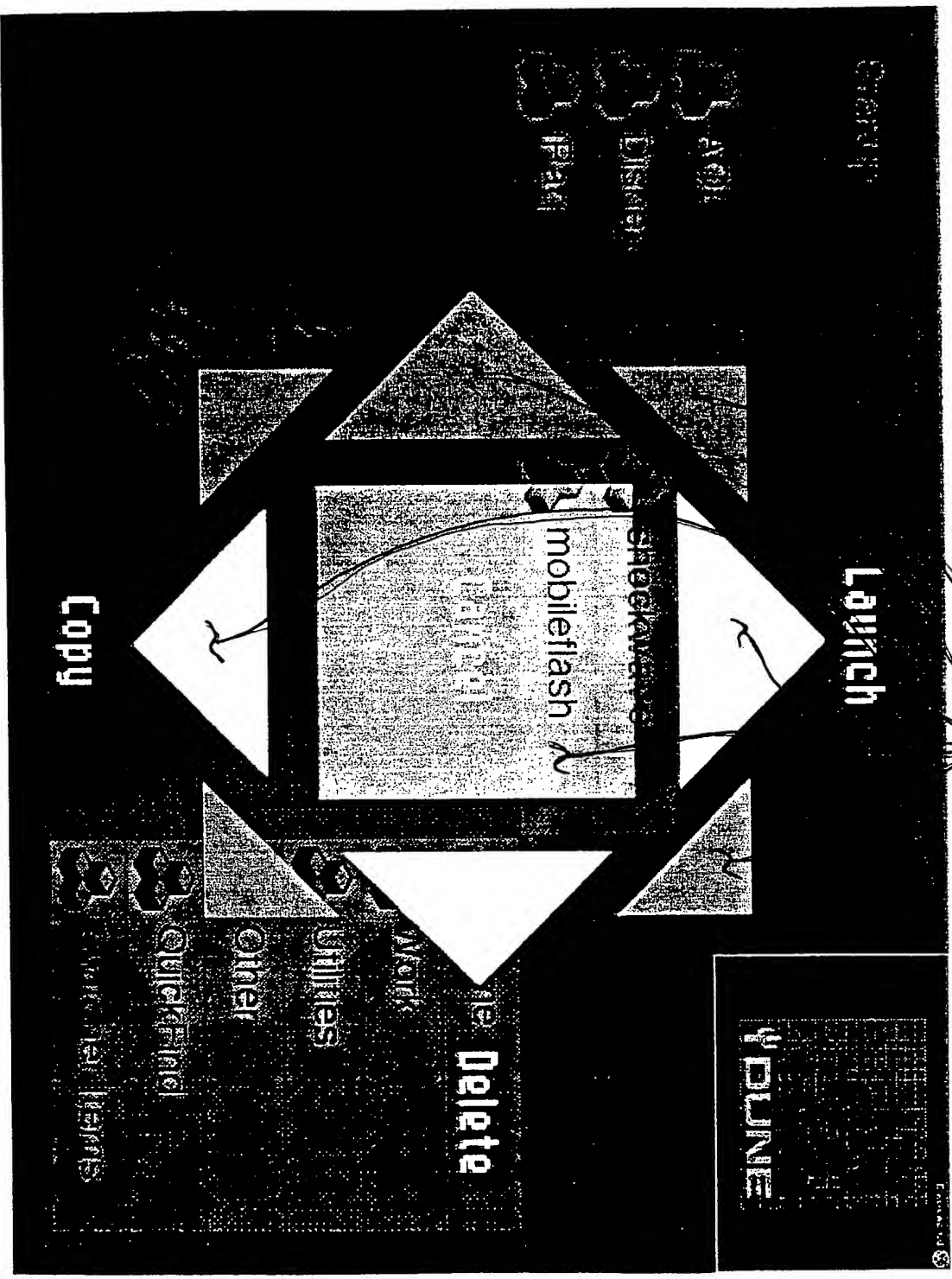


Fig 14E



1850

Fig. 15

09944402.01.1.502

1860

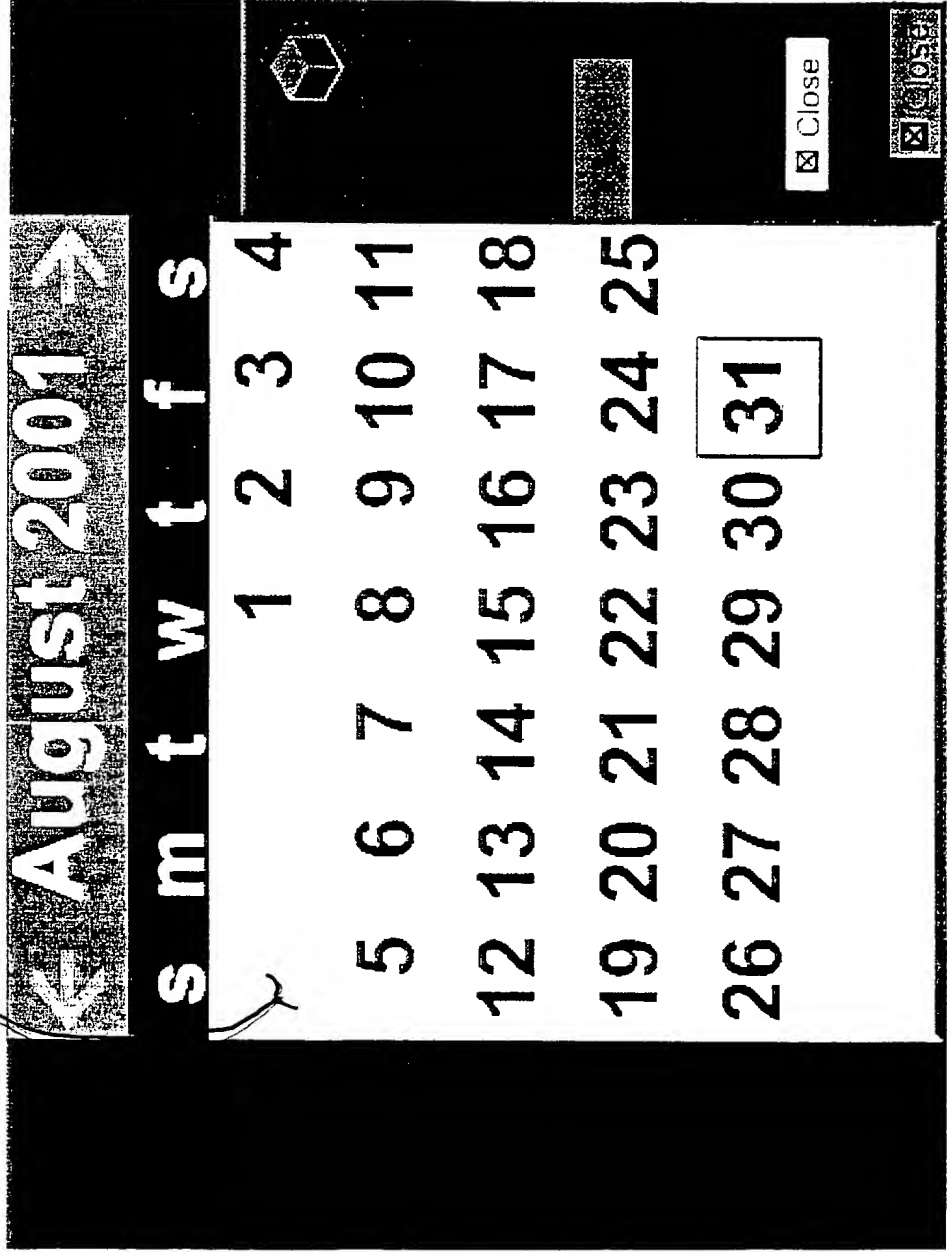


Fig 16

2025710" 28444658

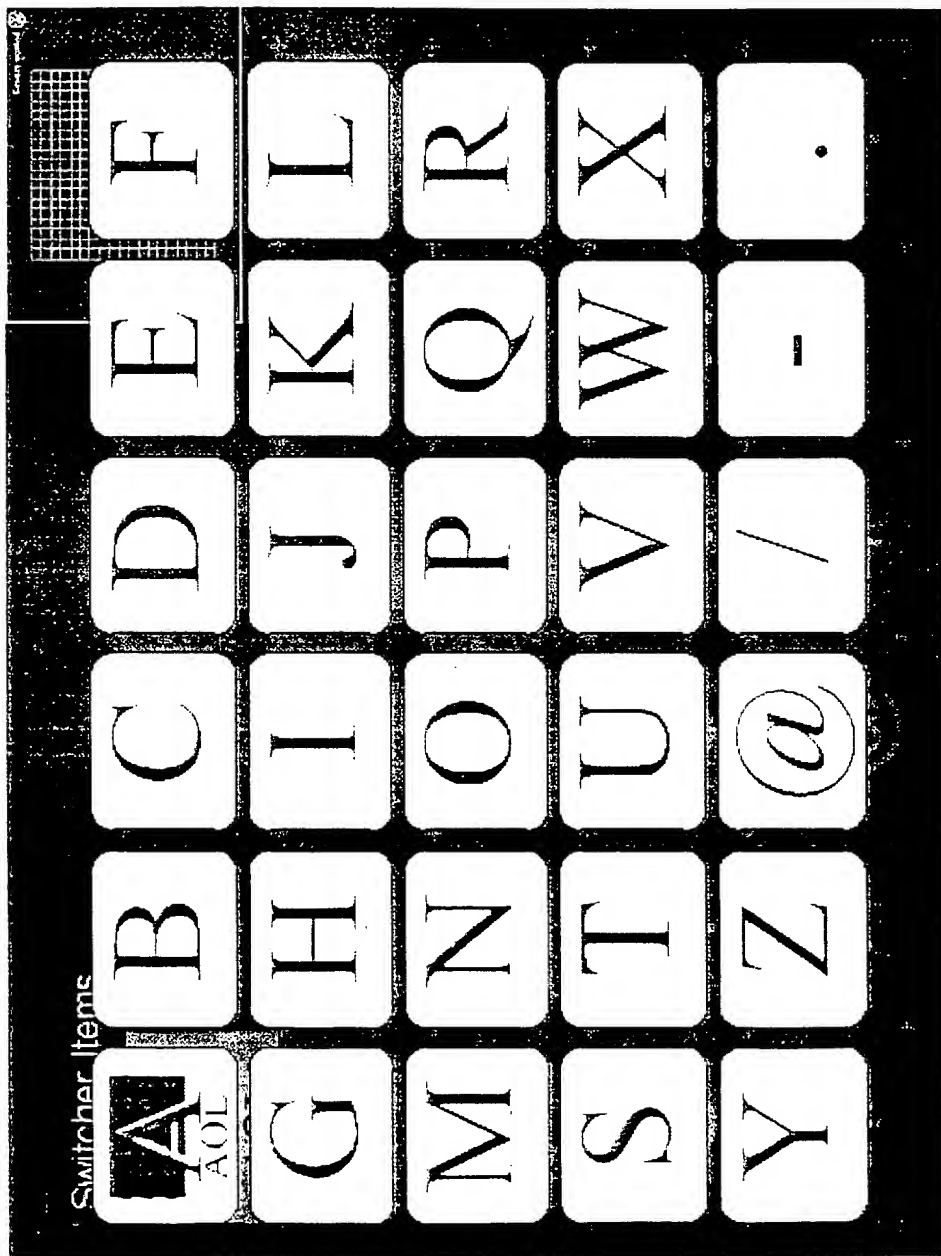


Fig. 17A

2025-10-28 14:55:50

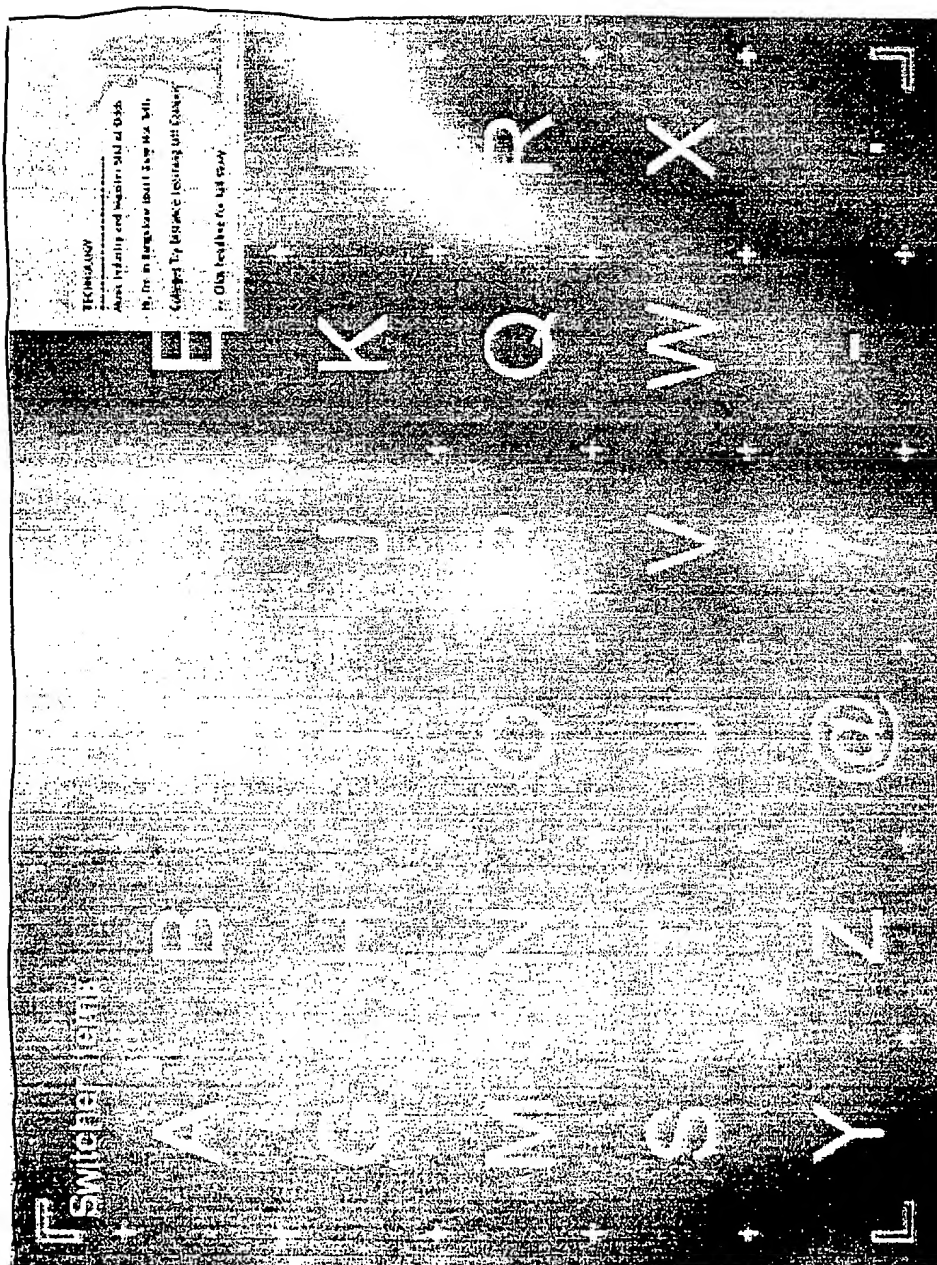


Fig 17B

1. The first step is to identify the problem or question that needs to be addressed. This involves understanding the context and the specific requirements of the task.

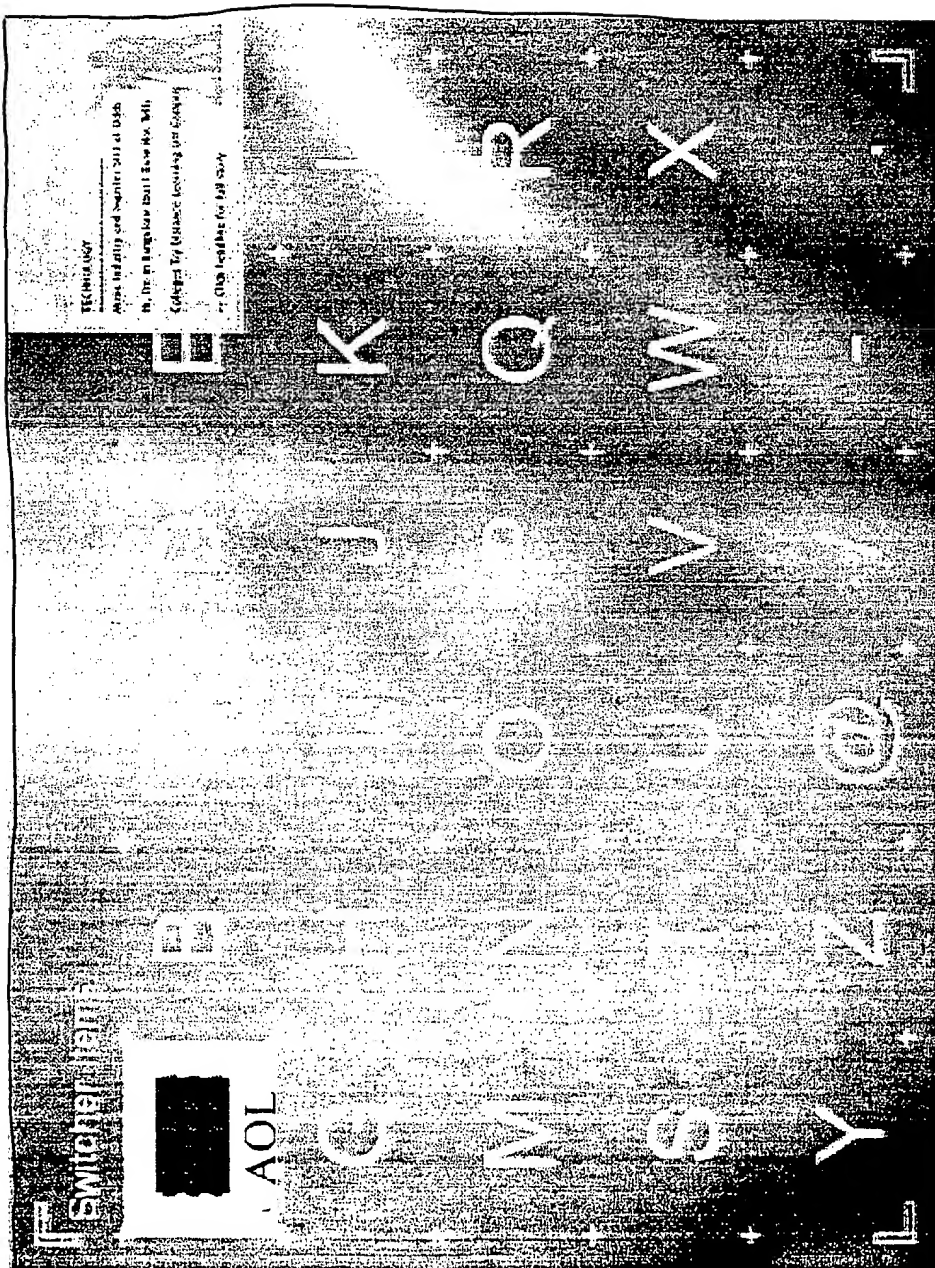


Fig. 17C

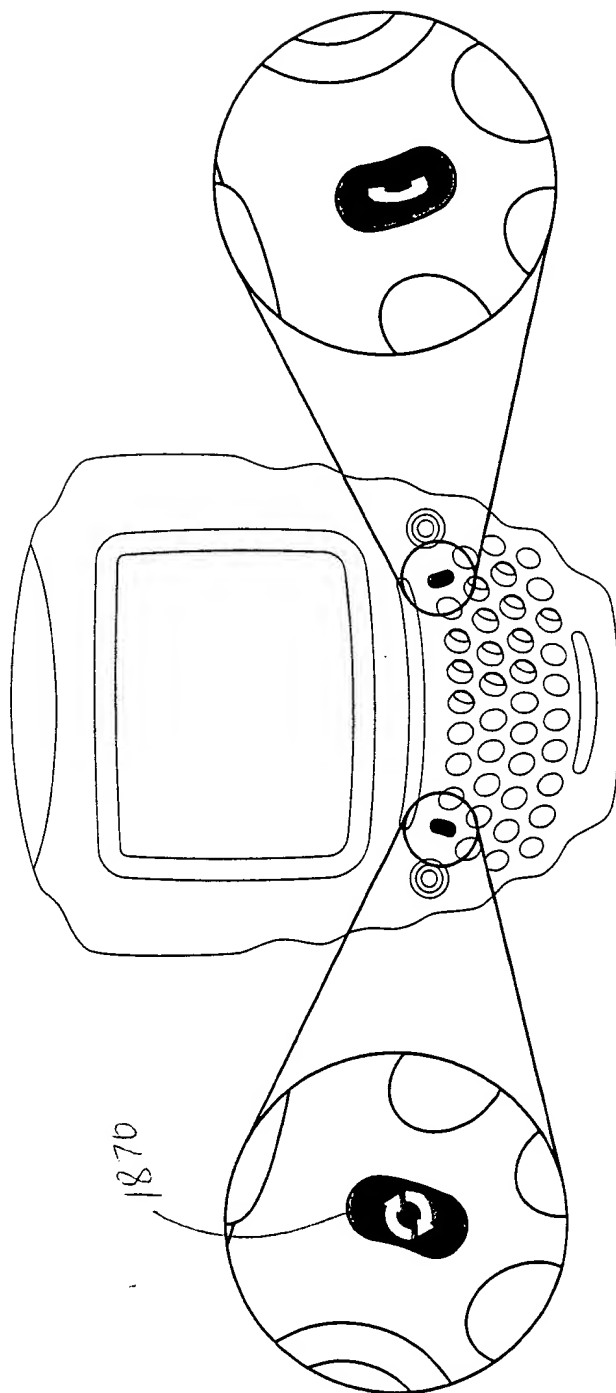


Fig. 17D

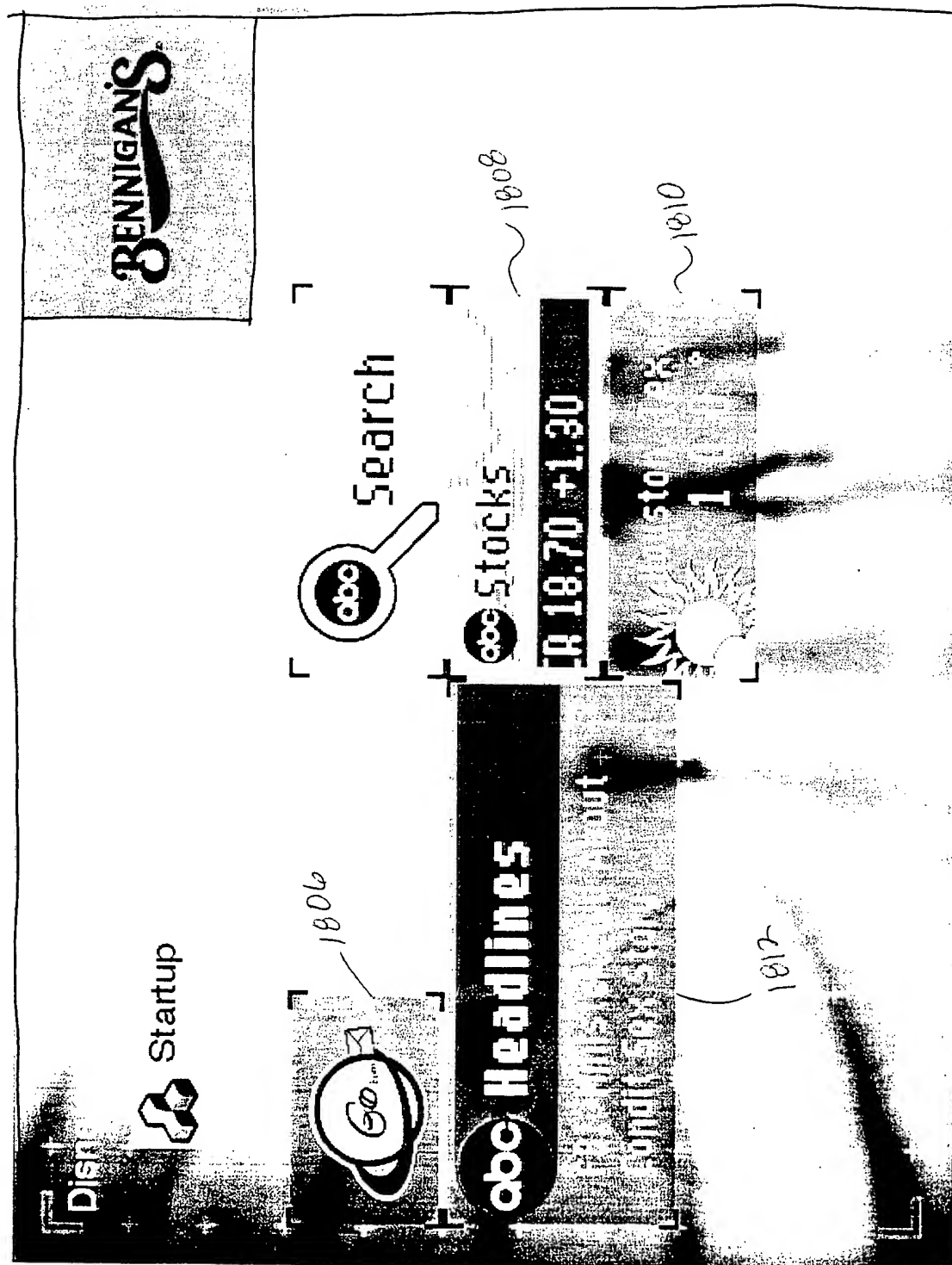


Fig. 18A

2007032000000000

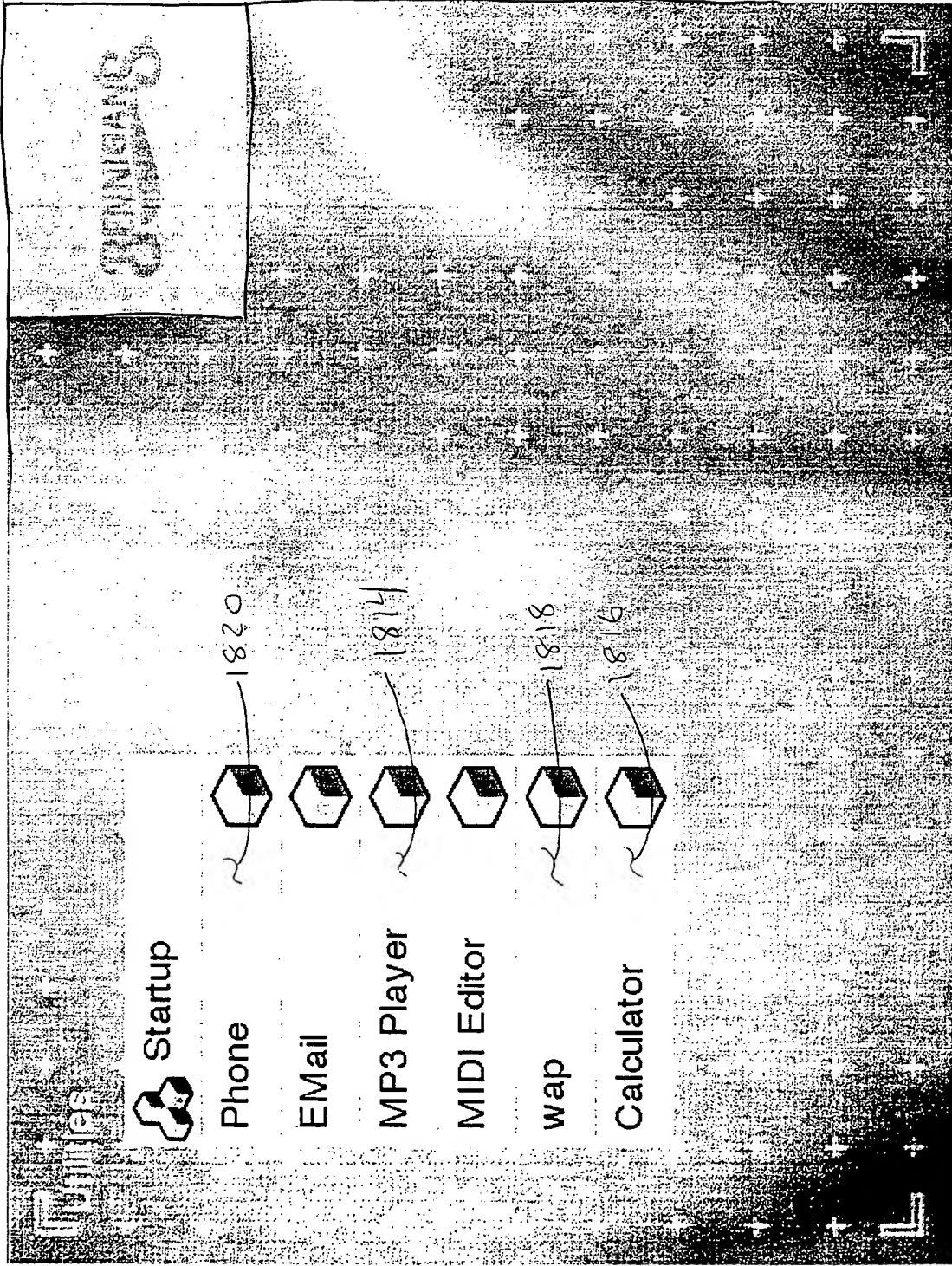


Fig 18B

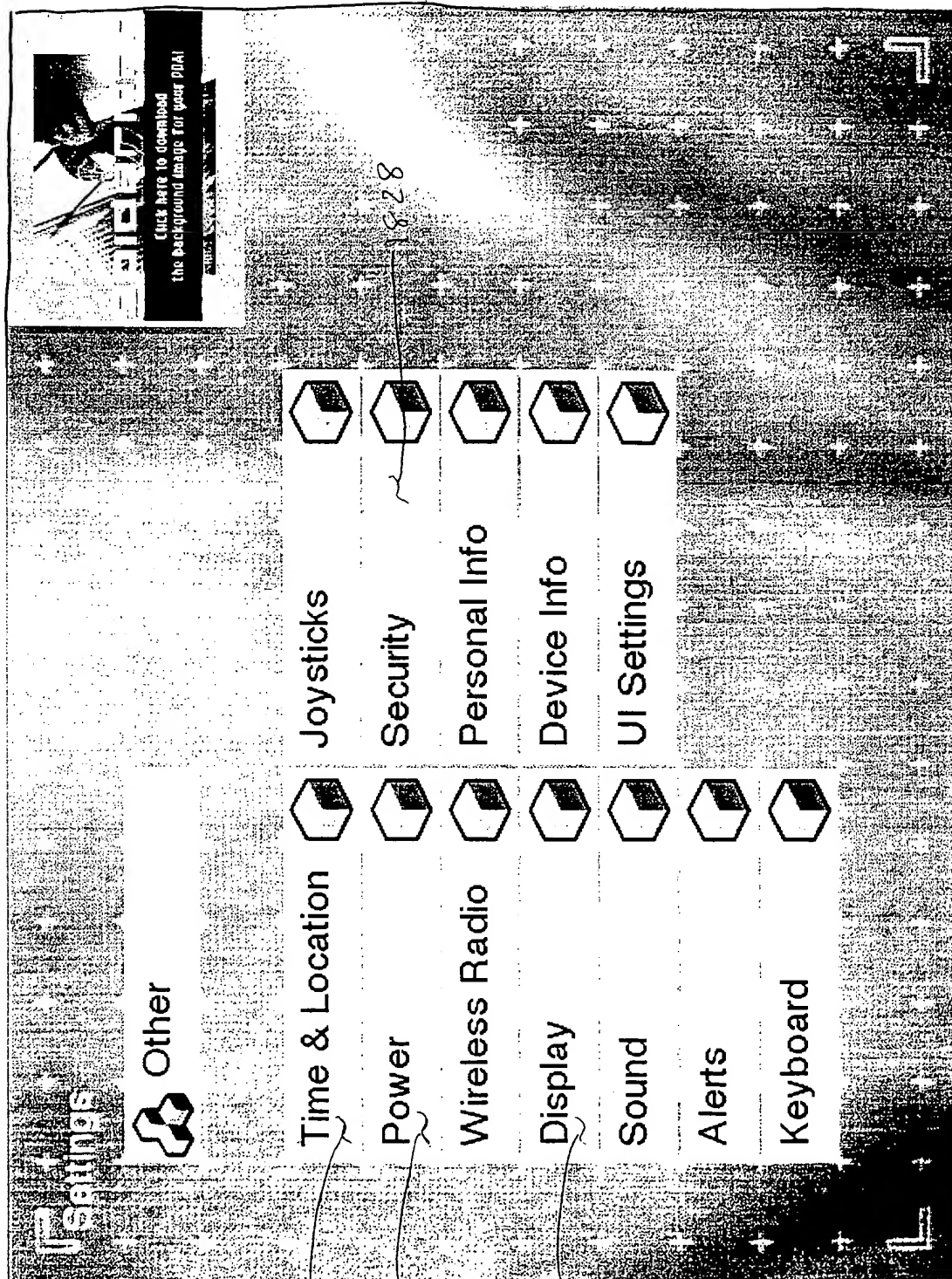


Fig 18c

205713" 23444650

1802

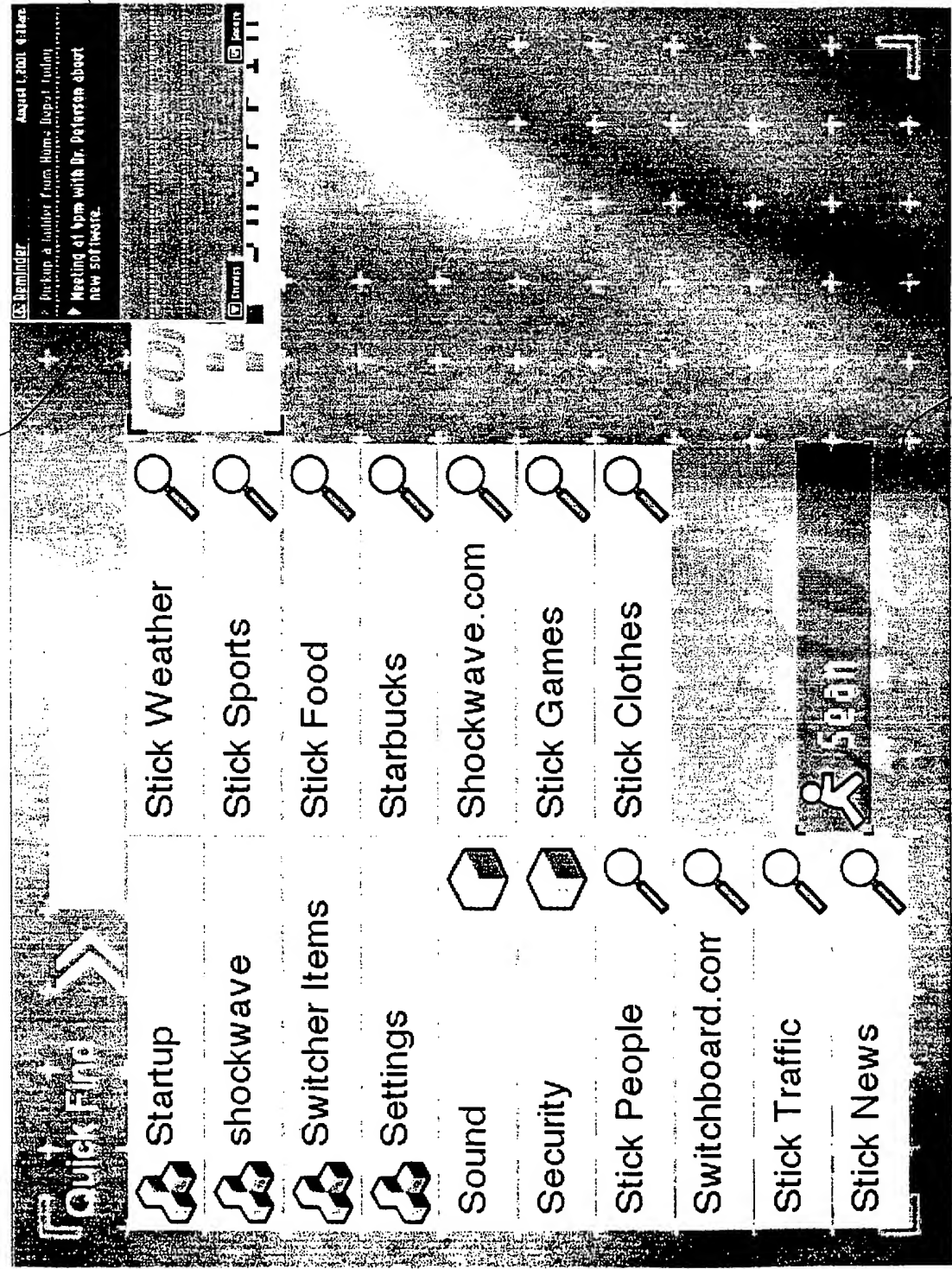


Fig 18D

1800

A line drawing of a handheld electronic device, possibly a calculator or a small PDA. It features a rectangular screen on the left and a keypad on the right. A circular inset is drawn over one of the buttons on the keypad, providing a magnified view of its internal structure. The magnified view shows a central dome-shaped contact surrounded by several other contacts or segments arranged in a circular pattern.

Fig 19